

**THE EFFECT OF INTEREST RATE ON FINANCIAL  
PERFORMANCE OF INSURANCE COMPANIES IN  
KENYA**

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## DECLARATION

I declare that this Research Project is my original work and has not been submitted for examination in any other university.

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This Research Project has been submitted for examination with my approval as the University Supervisor

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## LIST OF ABBREVIATIONS

<b>AKI</b>	Association of Kenya Insurers
<b>ANOVA</b>	Analysis of the variance
<b>Bn</b>	Billion
<b>CBK</b>	Central Bank of Kenya
<b>CPI</b>	Consumer Price Index
<b>DTMBs</b>	Deposit Taking Microfinance Banks
<b>DW</b>	Durbin Watson
<b>FY</b>	Financial Year
<b>GDP</b>	Gross Domestic Product
<b>GEP</b>	Gross Earned Premiums
<b>GoK</b>	Government of Kenya
<b>GWP</b>	Gross Written Premiums
<b>IRA</b>	Insurance Regulatory Agency
<b>IRS</b>	Interest Rates Spread
<b>KES</b>	Kenya Shillings
<b>NSE</b>	Nairobi Securities Exchange
<b>RBS</b>	Risk Based Supervision
<b>ROA</b>	Return on Assets
<b>ROE</b>	Return on Equity
<b>SRF</b>	Sample Regression Function

## ABSTRACT

Interest rates are one of the economy single strongest influences and have a profound effect on everything from individual investment decisions to job creation, monetary policy and corporate profits. Economic environments have an intense consequence on the growth of the insurance companies. A strong insurance industry promotes a developed contractual saving sector which contributes to a more resilient economy that would be less vulnerable to interest rates and demand shocks while creating a more stable business environment, including macroeconomic stability. The main objective of the study was to establish the effect of general interest rates the financial performance of licensed insurance companies in Kenya. Further, the researcher went ahead to ascertain the influence of other firm specific (micro) and macro-economic factors that affect the financial performance of insurance companies, specifically; GDP, liquidity risk, age, size and inflation. The research study used secondary data sources which was analyzed and presented inform of tables and figures to provide a clear picture of how interest rates are related to performance. Descriptive research design was adopted on a population of 49 licensed insurance companies and covered a six year period from 2008-2013. The findings showed  $R^2$  of 100% implying that interest rates, GDP, age, size, liquidity risk and inflation are major determinant of the return on asset which was a measure of financial performance for the insurance companies in Kenya. Using regression outputs of the insurance companies; the study established that interest rates negatively affect the return on assets of the insurance companies in Kenya. GDP, inflation, liquidity risk were found to have negative coefficient with the return on assets illustrating that an increase in one of these variables will leave a negative effect on the financial performance of the insurance companies. However, the study established that age of the companies has a positive impact on the financial performance of the insurance companies in Kenya. The study concluded that that there is a negative and statistically significant relationship between interest rates and financial performance of insurance companies in Kenya. The researcher therefore, recommended that insurers especially life insurance companies should have either well-matched asset and liability cash flows or have established additional reserves that are available to cover any interest rate or reinvestment rate risk since low interest environment creates spread compression on earnings.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

The Insurance Industry in Kenya is a vital part of the entire financial system. Insurance companies provide individual and businesses with a broad spectrum of financial security products and contribute to financial intermediation, thus enhancing a nation's financial and economic escalation. The financial system of an economy has a strong and recognized correlation with its development. As such, their success means the success of the economy; their failure means failure to the economy (Ansah-Adu, Andoh, and Abor, 2012). In his study, Zarruk (1989), considering risk management by the banks, found that risk-averse financial institutions operate with a smaller interest rate spread than risk-neutral ones, while Paroush (1994) explains that risk aversion raises the optimal interest rate.

Interest rate is defined by market microstructure, characteristics of the finance sector and the policy environment. In a growing economy as expressed by positive GDP growth, the demand for credit is high due to the nature of business cycle thus interest rates are vital (Athanasoglou, Sophocles, and Matthaios, 2005). In Financial year 2012, the Insurance Regulatory Agency (IRA) highlighted the need to shift its supervisory measures from a compliance based system to incorporating a Risk Based Supervision (RBS) model on the industry players. The rationale behind this was to enhance and improve efficiency in service delivery, capture greater awareness on risks that insurance companies are exposed to like interest rates and assess capital needs to buffer any risk incurred. The shift is also intended to help reduce undercutting within the industry thus improving underwriting margins.

General insurer's performance in terms of financial performance is influenced by both internal and external factors. Whereas internal factors focus on an insurer's specific characteristics, the external factors concern both industry features and macroeconomic variables like policy stability, gross domestic product, inflation, interest rate and political instability among others affect the performances of insurance. At the micro level, profit is the essential pre-requisite for the survival, growth and competitiveness of insurance firms and the cheapest source of funds. Without profits insurers cannot attract outside capital to meet their set objectives in this ever changing and competitive globalized environment. Profit does not only improve upon insurers' solvency state but it also plays an essential role in persuading policyholders and shareholders to supply funds to insurance firms. Thus, one of the objectives of management of insurance companies is to attain profit as an underlying requirement for conducting any insurance business (Chen and Wong, 2004) and (Harrington and Wilson, 1989)

### **1.1.1 Interest Rate**

Interest rates are one of the economy single strongest influences. They facilitate the formation of capital and have a profound effect on everything from individual investment decisions to job creation, monetary policy and corporate profits. Interest rate as a price of money reflects market information regarding expected change in the purchasing power of money or future inflation (Ngugi, 2001). Interest rates are fundamental to a capitalist society and are normally expressed as a percentage rate over the period of one year. Hanson and Rocha (1986) emphasize on the role of direct taxes, reserve requirements, cost of transactions and forced investment in defining interest rates. Interest rates affects the banks capability to transact business as high interest rates means that borrowers of funds are being charged high interest rates on

loans thus decreasing their demand for loanable funds. Also, high rates show that savers are getting low interest rates on their savings and thus can reduce the supply of loanable funds, as they can channel their funds to other activities; all this affects the performance of financial institutions in the economy (Kashyap & Jeremy, 2004).

The interest rate is the yearly price charged by a lender to a borrower in order for the borrower to obtain a loan. This is usually expressed as a percentage of the total amount loaned. Banks then use that money to make loans. Interest rate is influenced by a number of factors namely the risk of default, the length of the loan, inflation rates, and the real rate. Interest rates are generally higher for borrowers who are more likely to default. Interest is often compounded, meaning that the interest earned on a savings account for example, is considered part of the principal after a predetermined period of time. Interest is then earned on the larger principal balance during the next period and the process begins again (Canner, Niko, Gregory and Weil, 1997).

### **1.1.2 Financial Performance**

Financial performance refers to the level of performance in which the financial objectives are being or has been accomplished either in terms of profits and losses during a specified period of time. It is the process of measuring how well a firm can utilize fully its assets so as to generate revenue for the business. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Investopedia). The recommended measures for financial analysis that determine a firm's financial performance are grouped into five broad categories: liquidity, solvency, profitability, repayment capacity and financial efficiency (Woller and Gary, 1999).

Financial performance of an organization is also the measure of the change of the financial state of an organization or the financial outcomes that results from management decisions and the execution of those decisions by members of the organization. (Carton 2004) Profitability is a relative measure of financial success or performance of a business; it is the efficiency of a company or industry to generate earnings. It is expressed in terms of how much a company makes with what they have got and how much they make from what they take in. Mathematical measures of financial performance include operating income, earnings before interest and taxes, and net asset value which evaluate how well a company is using its resources to make a profit.

Financial performance can also be measured using Return on equity (ROE). In this study however, performance of insurance companies will be measured by its Return on Assets (ROA). ROA tells what a company can do with what they have got, that is, how many shillings of profit they can achieve for each shilling of assets they control. It is defined as net income divided by average total assets, reflects how well a company management is using the company real investment resources to generate profits. It is useful for comparing competing companies in the same industry. It is important to note that no one measure of financial performance should be taken on its own. Rather, a thorough assessment of a company's performance should take into account many different measures.

### **1.1.3 The Effect of Interest Rate on Financial Performance**

A relationship exists among macroeconomic factors and premium receipt in the insurance industry (Chen and Haung, 2001). Insurance firms earn high interest income when interest rates are high and on the contrary high interest rates discourage premiums. Economic environments have an intense consequence on the growth of the insurance companies. A strong insurance industry promotes a developed contractual saving sector which contributes to a more resilient economy that would be less vulnerable to interest rate and demand shocks while creating a more stable business environment, including macroeconomic stability. Barajas et al., (1999) held that a key variable for the financial system is the interest rates on deposits and interest rates on credits. The authors note that when this difference is large, it is regarded as an impediment to the expansion and development of the financial intermediation system, since this discourages savers and limits funding to entrepreneurs or investors in loans. Paroush, (1994) explains that risk aversion raises the optimal interest rate

According to Cheechee and Herbeman, (2002) monetarist use the interest rate as an important tool to attract more saving and the decrease in interest rate will encourage investors to look for other investment that will generate more return accordingly. Economists argue that the interest rate is the price of capital allocation over time. The magnitude of interest rate spread varies across countries. It is inversely related to the degree of efficiency of the financial sector, which is an offshoot of a competitive environment. The nature and efficiency of the financial sectors have been found to be the major reasons behind differences in spread in countries across the world. In economies with weak financial sectors, the intermediation costs which are involved in deposit mobilization and channeling them into productive uses, are much larger (Jayaraman and Sharma, 2003).

Insurance companies especially the life insurers are exposed to the interest rate environment because they sell long-term products whose present value depends on interest rates. On a fundamental level, the products satisfy two objectives for customers. The first objective is that insurance customers want protection from adverse financial consequences resulting from either loss of life (by buying life insurance policies) or exhaustion of financial resources over time (by buying annuity policies). The second objective is to allow customers to save (generally in a tax-advantaged way) for the future. Because customers are expected to receive cash from their policies years after they have been issued, life insurers face the challenge of investing the customers' payments in such a way that the funds are available to satisfy policyholders in the distant future. This feature generally leads life insurers to invest in a collection of long-term assets, mostly bonds. (Berends, Menamin, Thanases and Rosen, 2013)

Insurance companies use various tools and techniques to curb the risk of persistence low interest rates in the market. First, if they anticipate that the interest rates will be dwindling in future, they can extend and ensure that the period in which the assets invested in is prolonged so that to ensure a better periodic match between their assets invested and liabilities. Second, insurers can alter the conditions of the new policies by lowering guaranteed rates and thus lowering their liabilities, while pension-plan sponsors could close down the plan and offer less attractive terms to new employees. Third, in the case of Defined Benefit pension funds, pension-plan sponsors – and where relevant, plan members – could increase contributions to the pension fund. Fourth, and as a last resort, insurers and pension funds may be able to renegotiate or unilaterally adjust existing contracts. (Berends et al., 2013)



Insurance is an important intermediary in the financial market and also plays a very vibrant role in the economy by mobilizing savings and supplying long term capital for economic growth and as an asset allocator. Ngugi (2001) describes interest rate as a price of money that reflects market information regarding expected change in the purchasing power of money or future inflation. In a competitive insurance market, competition among the insurers increases productivity. A strong insurance industry promotes a developed contractual saving sector which contributes to a more resilient economy that would be less vulnerable to interest rate and demand shocks while creating a more stable business environment, including macroeconomic stability.

#### **1.1.4 The Insurance Companies in Kenya**

The Kenyan insurance companies are governed by the Insurance Act (1984) administered by the Insurance Regulatory Authority (IRA), a semi-autonomous regulator, set up in 2008. The industry operates under an umbrella body, the Association of Kenya Insurers (AKI), which was established in 1987. Membership is open to any registered insurance company. Its main objective is to promote prudent business practices, create awareness among the public and accelerate the growth of insurance business in Kenya. At the apex of the insurance sector are two reinsurance companies, the quasi-public Kenya Reinsurance Corporation (Kenya Re) and East African Reinsurance Company.

By 2014, there were 155 licensed insurance industry players in Kenya comprising of 49 insurance companies, 22 medical insurance providers and 84 insurance brokers. During the last few years, the insurance industry has undergone a series of changes through financial reforms, advancement of communication and information technologies, globalization of financial services, economic development and online

service provision. Those changes have had a considerable effect on efficiency, productivity change, market structure and performance in the insurance industry.

Low penetration of insurance products in the Kenyan market, relative to other developing and developed markets is attributable to factors like: general lack of a savings culture among Kenyans, low disposable incomes for the majority of the population, with close to 50% of Kenyans living below the poverty line, inadequate tax incentives that could encourage the middle classes to purchase life insurance products and a perceived credibility crisis of the industry in the eyes of the public particularly with regard to settlement of claims. Individuals and their families look to insurance companies to provide life insurance, retirement income, health insurance, and automobile and homeowners property and liability coverage. Businesses rely on insurers for similar coverage as well as workers compensation and more specialized products like marine insurance. Inefficient insurers cannot survive long in a competitive market (Karim and Jhantasana, 2005)

In the financial year 2012 Kenya was ranked 4th in Africa, in terms of insurance penetration growth behind South Africa (14.6%), Namibia (8.0%) and Mauritius (5.94%). This is because the sector recorded a 19% jump in Gross Earned Premiums (GEP) in FY12 to KES 84.38Bn compared to KES 70.92Bn in FY11. Gross Written Premiums (GWP) increased by a similar margin to KES 108.54Bn. Despite the growth in premiums, insurance penetration within the country expanded by a 14bps margin to 3.16% in the year. The sector's portfolio mix in terms of Life and Non-life insurance then stood at 34/66 respectively from a 25/75 mix indicating more investment in the Life Insurance line of business. A report published by AKI (Association of Kenya Insurers) anticipates this ratio to stand at a mix of 40/60 by the end of 2015.

## **1.2 Research Problem**

Interest rate as a price of money reflects market information regarding expected change in the purchasing power of money or future inflation according to Ngugi, (2001). Low insurance penetration is one of the challenges facing the insurance industry development in terms of market share, product diversification among other measures. Insurance company' performance is affected by both industry related or internal factors and external macroeconomic variables such as interest rate, inflation, unemployment, Gross Domestic Product (GDP), exchange rate fluctuations and money supply. The industry has currently received huge attention from different players in the market as the technological and economic changes pose greater risks that must be insured against. Wensheng et al. (2003) reasoned that a change in the domestic interest rate along with the US interest rate had little impact on the margin in the period under study.

Kenya Insurance Outlook report (2013) stated that the key drivers of the overall growth witnessed in the insurance industry have been marketing, staff quality service strategy, dedicated management, development of new products, intensive market research, customer service, claims management, automation of office and business processes. However, the industry has continued to face a number of challenges that has an influence on realization of further gains in growth. These challenges among others include premium rate undercutting, claims settlement in terms of volume and costs of settlement, delays in premium collection and non-compliance with cash and carry system, inappropriate staff skills in some areas, fraud and quality of intermediary services and customer retention. Competition for market share by many players has led to price wars with some insurers charging unsustainable premiums.

Attempts by the government to prod the insurers to merge by increasing the minimum capital requirements have borne no fruits. (Kiragu, 2014)

Most of the studies that have been done have been on the effect of interest rates and have focused on banks with no much findings on the insurance industry. Barquero & Segura, (2011) studied the determinants of interest rate spread in Costa Rica. They established that the intermediation margin tended in the short term to have an inertial tendency to increase and that higher short term deposits are the result of more aggressive policies to depositors via attractive interest rates and thus lead to lower interest rate spread. Kung'u (2013) concludes that GDP, inflation and banks' lending interest rates were established to be the macroeconomic factors that had the greatest positive effect on firms' financial performance. Ndichu, (2014) set out to establish the effect of interest rate spread on the financial performance of Deposit Taking Microfinance Banks (DTMBs) in Kenya and concluded that interest rates spread negatively affect the financial performance. There is therefore a gap in literature as far as the study on the relationship between interest rate and financial performance, thus this study will seek to fill this research gap by answering the following question: What is the effect of interest rate fluctuations on financial performance of insurance companies in Kenya?

### **1.3 Objective of Study**

To determine the effect of interest rate fluctuations on financial performance of insurance companies in Kenya

## **1.4 Value of Study**

The study will be constructive in understanding the consequence of interest rates on financial performance of the insurance industry thus it will assist the financial institution managers to carefully plan and forecast using interest rate changes with a view to ensure financial institutions predict performance thus remain stable to serve their purpose. With a better understanding of factors affecting the performance, financial institutions can be allowed to set their interest rate both for savings, deposits and loan to motivate savings and lending and this will ensure the growth of the economy.

The findings will also be useful to policy makers in the area of regulation and supervision. The study will provide useful lessons on how various legal, regulatory and procedural requirements could impact on the insurance industry and finance sector in general as they endeavor to conform. In this way, the study findings will offer useful inputs to advise the review of the policy and legal framework in the future. Investors can use the results obtained from the research to make decisions on which sectors of the economy to invest in at different levels of interest rates. If policies made are effective, there will be healthier economic growth and this will be reflected in an active economy.

This study will also be beneficial to finance practitioners since the findings of the study will shed more light on the implications of interest rate spread on financial performance of firms. Academicians and researchers stand to benefit from the findings of this study since it will act as a reference point to those interested in this area or other related topics. It will also form a basis for further research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents the theoretical framework, review of empirical studies and determinants of financial performance in insurance industry. It is the review of various studies that are relevant to interest rate and financial performance.

#### **2.2 Theoretical Review**

There are many theories explaining interest rate effects but this study will be guided by three theories that will provide theoretical evidence of various arguments by different scholars and researchers in relation to interest rate and financial performance.

##### **2.2.1 The Classical Theory of Interest Rate**

The classical theory was put forward by Keynes (1936). The theory holds the proposition based on the general equilibrium theory that the rate of interest is determined by the intersection of the demand for and supply of capital. It is fairly clear, however, that this tradition has regarded the rate of interest as the factor which brings the demand for investment and the willingness to save into equilibrium with one another. Investment represents the demand for investable resources and saving represents the supply, whilst the rate of interest is the “price” of investable resources at which the two are equated. Just as the price of a commodity is necessarily fixed at that point where the demand for it is equal to the supply, so the rate of interest necessarily comes to rest under the play of market forces at the point where the amount of investment at that rate of interest is equal to the amount of saving at that

rate. An equilibrium rate of interest is determined at a point at which the demand for capital equals its supply according to Caplan (2000).

It follows that savings and investment are the two real factors determining the rate of interest (Fredman, 1991). If the level of income is assumed to be given, we can infer that the current rate of interest must lie at the point where the demand curve for capital corresponding to different rates of interest cuts the curve of the amounts saved out of the given income corresponding to different rates of interest, but this is the point at which definite error creeps into the classical theory. If the classical school merely inferred that, given the demand curve for capital and the influence of changes in the rate of interest on the readiness to save out of given incomes, the level of income and the rate of interest must be uniquely correlated, there would be nothing to disagree with.

In a money economy, as physical capital is purchased with monetary funds, the rate of interest is taken to be the annual rate of return over money capital invested in physical capital assets. The implication of the theory is that different financial institutions have different liquidity, high liquid institutions should charge low interest rate on funds lend in order to attract more borrowers and interest rate on savings should be low in order to discourage savings. This would mean that interest rate spread on highly liquid financial institutions should be comparatively more than low ones. Financial performance on comparatively high liquid institutions should be better than low liquid institutions (Rochon & Vernengo, 2001)

### **2.2.2 Loanable Funds Theory of Interest Rates**

Davenport's (1896) theory of the supply of loanable funds in an environment of free banking assumes that interest rates are determined by supply of loanable funds and demand for credit. The theory is an approach where the ruling rate of interest in society is pure and simple, conceived as nothing else than the price of loans or credit, determined by supply and demand. It is an improvement of the classical theory of interest. In traditional loanable funds theory as presented in Gregory's (2012) macroeconomics book called Principles of Economics, the amount of loans and credit available for financing investment is constrained by how much saving is available. Saving is the supply of loanable funds, investment is the demand for loanable funds and are assumed to be negatively related to the interest rate. Lowering households' consumption means increasing savings that via a lower interest increase investment. It recognizes that money can play a disturbing role in the saving and investment processes and thereby causes variations in the level of income. Thus, it is a monetary approach to the theory of interest, as distinguished from that of the classical economists. In fact, the loanable funds theory synthesizes both the monetary and non-monetary aspects of the problem (Wensheng, Wung and Shu, 2002).

In the New Keynesian loanable funds reasoning, the theory goes like this:

Let output demanded (call it  $Y_d$ ) be a negative function of the rate of interest  $r$ , a positive function of actual income  $Y$ , and a function of other stuff  $X$  such that:

$$Y_d = D(r, Y, X)$$

The Orthodox New Keynesian Macroeconomist Central Bank set  $r$  such that output demanded equals potential output  $Y^*$ , so that:

$$D(r, Y^*, X) = Y^*$$



Assume a closed economy for simplicity, subtract  $C_d$  (consumption demand) plus  $G_d$  (government demand) from both sides, remember the accounting identities  $C+I+G=Y$  and  $S=Y-C-G$ , where  $I$  is investment and  $S$  is national saving, and we get:

$$I_d(r, Y^*, X) = S_d(r, Y^*, X)$$

The central bank sets a rate of interest such that desired investment at potential output equals desired national saving at potential output. This is precisely the loanable funds theory of the rate of interest.

Its limitations however are that in Keynes's view and later over and over again confirmed by empirical research, it's not so much the interest rate at which firms can borrow that causally determines the amount of investment undertaken, but rather their internal funds, profit expectations and capacity utilization. As is typical of most mainstream macroeconomic formalizations and models, there is pretty little mention of real world phenomena, for example real money, credit rationing and the existence of multiple interest rates, in the loanable funds theory. As emphasized especially by Minsky (2007) to understand and explain how much investment/loaning/crediting is going on in an economy, it's much more important to focus on the working of financial markets than staring at accounting identities like  $S = Y-C-G$ . The problems we meet on modern markets today have more to do with inadequate financial institutions than with the size of loanable funds savings.

### **2.2.3 Arbitrage Pricing Theory**

Ross (1976) developed the Arbitrage Pricing Theory that assumes that assets return is dependent on various macroeconomic, market and security specific factors. It states that the expected return of an investment or a financial asset can be modeled as a linear relationship of various macroeconomic variables or where degree of correlation

to changes in each variable is represented by a beta coefficient. The asset value should equal the expected end of period asset value or future cash flows discounted at the rate implied by the model. If the asset value changes, arbitrage should bring it back to the line

Charging a price at least as high as the competitive price (reservation price) increases the market value of the company. Charging a lower price would reduce the company's market value. Thus, financial models and financial prices are among the key items of information that insurers should have at their disposal when making financial decisions about tariff schedules, reinsurance contract terms, among others. Though many different specific forces can influence the return of any individual stock, the internal and external factors tend to cancel out in large and well diversified portfolio. Insurance companies are corporations and insurance policies can be interpreted as specific types of financial instrument or contingent claim thus it is natural to apply financial models to insurance pricing, (Cummins,1987)

The theory can help the insurance companies to decide whether a security is undervalued or overvalued thus avoid making losses. It is also very useful for building portfolios because it allows managers to test whether their portfolios are exposed to certain internal or external factors that would affect the financial performance of institutions. Doumpos and Gaganis (2012) estimated the performance of non-life insurers and found that macroeconomic indicators such as gross domestic product growth, inflation and income inequality influence the performance of firms.

## **2.3 Determinants of Financial Performance**

The determinants of financial performance are as follows:

### **2.3.1 Company Size**

It has been suggested that company size is positively related to financial performance. Brown, Carson and Hoyt (2001), identified important economic and market factors and insurer specific characteristics related to the life insurer performance. In his paper, firm performance was positively related to the size and liquidity band portfolio returns whereas negatively related to anticipate inflation. Large insurance companies normally have greater capacity for dealing with adverse market fluctuations than small insurance companies. Additionally large insurance companies usually can relatively easily recruit able employees with professional knowledge compared with small insurance companies.

### **2.3.2 Leverage**

Leverage affects the level and variability of the firm's after tax earnings and hence, the firm's overall risk and return. Insurance companies collect premiums in advance and keep them in reserve accounts for future claim settlements. Pervan, Poposki and Curak (2014) investigated how insurance companies in Macedonia performed and according to the findings of panel analysis regarding the determinants of profitability, it was revealed that expense ratio, claim ratio, Size of the insurer, internal factors like leverage, staff and external factors like economic growth, and inflation have statistically significant influence on insurers' performance.

### **2.3.3 Macroeconomic Variables**

Chen and Haung (2001) confirmed that a relationship exists among macroeconomic factors and premium receipt in the life insurance industry. Doumpos and Gaganis

(2012) estimated the performance of non-life insurers and found that macroeconomic indicators such as gross domestic product growth, inflation and income inequality influence the performance of firms. Nevertheless, general insurance companies usually invest high proportion of their funds in short-term investments because their liabilities are much shorter and less predictable in amount than their life counterparts.

### **2.3.4 Equity Returns**

High returns on equities enhance their investment performance therefore the relationship between performance and equity returns would be positive. Curak, Pervan and Marijanovic (2011) indicated that company size, underwriting risk, inflation and equity returns have significant association with composite insurers' financial performance. General financial institutions tend to hold a relatively low proportion of their investment portfolios in equities because a high proportion of the portfolios in equities could increase insolvency risk.

### **2.3.5 Liquidity**

Companies with more liquid assets are less likely to fail because they can realize cash even in very difficult situations. It is therefore expected that insurance companies with more liquid assets will outperform those with less liquid assets. Brown et al., (2001) In his study, firm performance was positively related liquidity band portfolio returns Maintaining high liquidity can reduce insurance companies' management's discipline as regards both underwriting and investment operations. Moreover, according to the theory of agency costs, high liquidity of assets could increase agency costs for owners because managers might take advantage of the benefits of liquid assets

## **2.4 Empirical Review**

Financial performance in most financial institutions and firms in general is influenced by both internal factors and external factors (concern both industry and macroeconomic variables). The empirical review is about the effect by both local and international researchers on effects of financial performance.

### **2.4.1 International Evidence**

Grace and Hotchkiss (1995) show that GDP is negatively related to premium and interest rates have a reverse effect on the underwriting profits. Demirguc-Kunt and Huizinga (1999) argue that financial intermediation directly affects the return on savings and investment, and that the difference between these two reflects the margins of intermediation, without leaving aside transaction costs and taxes. Therefore, the net interest margin can be interpreted as an efficiency indicator in resource allocation in a financial system, this is the motivation for the authors to investigate how the tax system, the structure of the financial system and financial regulations affect the interest rate spread. This study includes tax indicators and a good part of the variables are weighted by GDP per capita to test whether the country's development level also matters.

Mlachila and Chirwa (2002) set out to study on financial reforms and interest rate spread in the commercial banks in Malawi. The study investigated the impact of financial sector reforms on interest rate spreads in the commercial banking system in Malawi. The study used 7 commercial banks in Malawi and 6 deposit taking institutions. Using alternative definitions of spreads, their analysis showed that spreads increased significantly following liberalization, and panel regression results

suggested that the observed high spreads can be attributed to high monopoly power, high reserve requirements, high central bank discount rate and high inflation.

Garman and Grable (2012) explored on the effect of interest rates on financial performance of agricultural firms in Amsterdam, Holland. Secondary data was used and using a five year trend between 2008-2013. Data was analyzed using a regression model and When the interest rates were low clients borrowed more money to make investments since the cost of borrowing was low. The results of the analysis show that there is an inverse correlation between interest rates and financial performance of the firm. Doumpos and Gaganis (2012) estimated the performance of non-life insurers and found that macroeconomic indicators such as gross domestic product (GDP) growth, inflation and income inequality influence the performance of firms.

Akotey and Amoah (2012) researched on determinants of performance of life insurance companies in Ghana. The findings revealed that life insurers have been incurring underwriting losses which detract from their financial performance. The high underwriting losses as the results showed is due to overtrading, high claims payments and high managerial expenses. The study further showed that gross written premiums and total assets have a negative effect on investment income. This may be due to the excessive attention on marketing to grow premiums without a proportionate allocation of resources towards the management of their investment portfolios. This is evidenced in the low levels of investment income in the industry. The study concluded that Life insurers' financial performance was measured by three parameters: investment income, underwriting profit and overall sales profitability. These parameters capture the key operations of life insurers.

Pervan et al (2014) investigated how insurance companies in Macedonia performed and according to the findings of panel analysis regarding the determinants of profitability, it was revealed that expense ratio, claim ratio, Size of the insurer, internal factors like leverage, staff and external factors like economic growth, and inflation have statistically significant influence on insurers' performance. Usually the overall profitability is a summation of the investment income and the underwriting profit. That is the investment income must complement the underwriting profit towards the enhancement of the overall profitability of a life insurance company.

#### **2.4.2 Local Evidence**

Gavin (2010) examined the factors affecting banking sector interest rate spread in Kenya. He adopted a descriptive and quantitative research design on a sample of 15 commercial banks in Kenya which accounted for 85% of all the loans disbursed between 2002 and 2009. The study used secondary data and found out that intermediary efficiency is affected by bank market share of assets, overheads, return on assets, liquidity and market share of loans and proportion of non-interest income to total income. There is evidence of capital adequacy ratio, treasury bills rate and the discount rate also having a significant impact on interest rate spreads. The study could not find evidence to support the impact of market share of deposits, inflation and cash reserve ratios on banking interest rate spreads. The study concludes that the bank-specific factors are the most significant factors influencing interest rate spreads of commercial banks in Kenya than macroeconomic factors. It reveals that there are two types of spread; one influenced by commercial bank ability to mobilize funds at a lower cost and one influenced by high non-operational costs (overheads).

Nge'tich and Wanjau (2011) sought to establish the effects of interest rate spread on the level of Non-Performing Assets in commercial banks in Kenya. This study adopted a descriptive research design on a sample of 43 commercial banks in Kenya operating by 2008. The study used questionnaires to collect data from primary data sources and secondary data, collected from Bank Supervision Report, to augment the primary data findings. The study used both quantitative and qualitative techniques in data analysis to the relationship between the interest rate spread and loan non-performance. The study concluded that interest rate spread affect performing assets in banks as it increases the cost of loans charged on the borrowers, regulations on interest rates have far reaching effects on assets non-performance, for such regulations determine the interest rate spread in banks and also help mitigate moral hazards incidental to Non-Performing Assets. The study recommended that commercial banks in Kenya should assess their clients and charge interest rates accordingly as ineffective interest rate policy can increase the level of interest rates and consequently Non-Performing Assets.

Njoroge (2013) studied the relationship between interest rates and financial performance of firms listed at the Nairobi Securities Exchange. The study covered five years from 2008 to 2012 inclusive and the research was based on secondary data obtained from published financial statements of the firms and publications by the Central Bank of Kenya. Causal research design was employed to assess the nature of the relationship between interest rates and financial performance of firms listed at the Nairobi Securities Exchange. Regression analysis was used to assess the nature of the relationship. Results obtained from the study indicated a not significant positive relationship between interest rates and financial performance. However, other factors which influence financial performance need to be considered and enhanced in order to



significantly improve the financial performance of those firms. The study is significant to the government in setting interest rates appropriate to influence the level of borrowing and lending to encourage economic development.

Nduati (2013) sought to determine the effect of interest spread on Kenya commercial banks financial performance. The target population in this study was 43 commercial banks in Kenya. Regression analysis was used to analyze the data. The study found that there is strong positive relationship between financial performances (ROA) of commercial banks with interest rate spread. Study found out that internal and external variables are significance to influencing financial performance of Kenya banks. The study found that interest rate spread affect performance of assets in banks as it increases the cost of loans charged on the borrowers, regulation on interest rates have far reaching effects on assets non-performance. The study recommended that there is need for government to regulate interest rates as this would help to safeguard borrowers from exploitation by commercial banks.

Ndichu (2014) set out to establish the effect of interest rate spread and on the financial performance of Deposit Taking Microfinance Banks (DTMBs) in Kenya. The research study utilized descriptive research design and embraced systematic random sampling technique on selecting the four DTMBs in Kenya out of the nine existing in the country. Secondary data were analyzed and presented inform of tables and figures to provide a clear picture of how interest rates spread contribute in the success or failure of the DTMB business. Findings showed that as interest rate spread increased the financial performance of DTMBs decreased thus interest rates spread negatively affect the financial performance of DTMBs in Kenya. From the research findings, the interest rate spread provided sufficient margins for microfinance banks to continue

operating in the market. The researcher therefore, recommended that the micro-finance banks' management be both proactive and reactive in harmonizing those elements that have an influence on interest rates spread in order to cushion their institutions from any financial shocks.

## **2.5 Summary of Literature Review**

From the above literature review, both industry specific as well as Macro-economic variables have an effect on financial performance and possibly insurance companies in Kenya. The findings were supported by Wensheng, Kitty, Leung and Chang (2003) concluded that a change in the domestic interest rate will affect profits. From the literature review most insurance companies are charging a high risk premium due to increasing trend in interest rates. Industry specific as well as Macro-economic variables have an effect on insurance companies' performance. The study by Gavin, (2010) could not find evidence to support the impact of market share of deposits, inflation and cash reserve ratios on banking interest rate spreads. The study concludes that the bank-specific factors are the most significant factors influencing interest rate spreads of commercial banks in Kenya than macroeconomic factors

Nduati (2013) in his study found out that interest rate spread affect performance of assets in banks as it increases the cost of loans charged on the borrowers. Ndichu, (2014) concluded that as interest rate spread increased the financial performance of Deposit Taking Microfinance Banks In Kenya (DTMBs) decreased thus interest rates spread negatively affect the financial performance of DTMBs in Kenya. Results that Njoroge (2013) obtained from his study indicated a not significant positive relationship between interest rates and financial performance.

The review of literature clearly found a research gap in Kenya as most of the studies concentrated on the effect of interest rates on other financial institutions like commercial banks and microfinance institutions with less emphasis to the effect of interest rate on financial performance of insurance companies. Several researchers conclude that the high interest rate charged is as the result of inefficiency in the finance sector whereas other studies done in the area had focused on three to four variables in different sectors; this current study therefore narrows the gap by establishing how financial performance of insurance industry relate specifically with interest rate.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter gave the details of the methods that the researcher used to collect and analyze data in order to conduct the study. This includes the research design, the population of the study, data collection method, data analysis, analytical model as well as tests of significance that were used to arrive at conclusions regarding the relationship between interest rate and financial performance of insurance companies in Kenya.

#### **3.2 Research Design**

Research design according to Claire, Wrightsman and Cook (1962) is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The study used a descriptive correlation research design to depict the characteristics of the population

According to Rijbarova (2005) descriptive study measures two or more variables as they exist naturally and the goal is to establish that a relationship exists between variables. The advantage of this design is that the researcher is able to use various forms of data as well as incorporating human experience. It gives researchers the ability to look at what they are studying in various aspects and provides a bigger picture as opposed to other types of research design. Descriptive correlational research describes data and characteristics about the population or phenomenon being studied. According to Coopers and Schindler (2004) descriptive studies are more

formalized and typically structured with clearly stated hypotheses or investigative questions.

### **3.3 Population**

According to Thompson, (2008) a study population is that aggregation of elements from which a sample is usually selected. The target population in this specific research was the 49 licensed insurance companies in Kenya. (Appendix 1)

### **3.4 Data Collection**

The study used secondary data sources of a six year period from 2008-2013 based on the availability and accessibility of data. Secondary data is information that has previously been collected that is utilized by a person other than the one who collected the data. Mugenda & Mugenda (2003). The secondary data was obtained from the Central Bank of Kenya, World Bank, Association of Kenya Insurers (AKI), Insurance regulatory Authority (IRA), the financial statements electronic journals and websites belonging to the target insurance companies to help evaluate their financial performance. This helped the researcher to get quantified data that was helpful in drawing conclusions and giving recommendations on the effect of interest rates on financial performance of licensed insurance companies in Kenya

### **3.5 Data Analysis**

According to Shamo and Resnik (2003) various analytic procedures provide a way of drawing inductive inferences from data and distinguishing the signal the phenomenon of interest and statistical fluctuations present in the data.

A regression model was used for data analysis and the study used six variables to establish the relationship between interest rate and financial performance of insurance

companies in Kenya. Data obtained from secondary data was analyzed using statistical package for social sciences (SPSS). The results obtained from the model were represented in tables and figures to aid in analysis.

Financial performance was measured using return on assets (ROA) which was calculated as net income divided by total Assets. Interest rates were sourced from the CBK website. Consumer Price Index which represented inflation was sourced from the CBK website as the CPI index. Liquidity was measured using current assets divided by current liabilities. Size was measured as Log of total assets. Age was measured as the number of years since establishment and GDP per capita annual growth in % ratio was used as a general index of economic development.

### **3.5.1 Analytical Model**

The regression model that was used in analyzing the effect of interest rates on financial performance of insurance companies listed on the NSE was as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

Where:

Y = Financial performance was measured using return on assets (ROA) which is calculated as net income divided by total Assets

X<sub>1</sub> = Interest Rates were obtained from the Central Bank of Kenya Website

X<sub>2</sub> = Consumer Price Index to represent inflation which will be sourced from the CBK website as the CPI index

X<sub>3</sub> = GDP per capita annual growth in % ratio, was included as a general index of economic development.

X<sub>4</sub> = Liquidity risk was calculated as current assets/current liabilities from the financial statements.

$X_5$  = Size of the insurance company was measured as the Log of total assets

$X_6$  = Age of the was measured as the number of years since establishment

$\alpha$  = Regression constant

$\beta_1\beta_3\dots B_n$  = coefficients of variables in the regression model

$\varepsilon$  = Error term normally distributed about the mean of zero

### **3.5.2 Test of Significance**

Y was the dependent variable financial performance,  $\beta_0$  was the regression.  $\beta_1\beta_3\dots B_n$  was the coefficients of the variables in regression model. The model's validity was measured on how well the regression model fits the data. Goodness of fit statistics can be used to test how well the sample regression function (SRF) fits the data. The most common goodness of fit statistic is known as  $R^2$  (Brooks, 2008).

A correlation coefficient must lie between  $-1$  and  $+1$  by definition. Since  $R^2$  defined in this way is the square of a correlation coefficient, it must lie between 0 and 1. If this correlation is high, the model fits the data well, while if the correlation is low (close to zero), the model is not providing a good fit to the data.  $R^2$  is the square of the correlation coefficient between the values of the dependent variable and the corresponding fitted values from the model. ANOVA was used to establish the significance of the model and also to deduce the relationship between financial performances and interest rates. The tests were performed at 95% level of confidence to determine whether the model is a good predictor.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND INTERPRETATION**

#### **4.1 Introduction**

This chapter presents the data analysis, results, and interpretation of the research findings. To achieve the objective of the study, SPSS statistical software was used to analyze the data. Linear regression was used to establish the relationship between interest rates and financial performance of insurance companies in Kenya.

The study sought to determine the effects of general interest rates on financial performance of licensed insurance companies in Kenya. In this study a total of 6 periods starting from 2008 to 2013 was used. The references included Central Bank of Kenya, World Bank, Association of Kenya Insurers (AKI), Insurance regulatory Authority (IRA) websites, electronic journals and survey of branch network of the insurance companies including and economic surveys carried out by Kenya National Bureau of statistics.

#### **4.2 Response Rate**

The study targeted a sample size of 40 out of the 49 insurance companies making a response rate of 82%. This response rate was satisfactory to make conclusions for the study. Weisberg, Krosnick & Bowen (1996) recommended a response rate of 70%. According to Mugenda & Mugenda (2003), a response rate of 50 percent is adequate for analysis and reporting; a rate of 60 percent is good and a response rate of 70 percent and over is excellent. Based on the assertion, the response rate was considered to adequate.



**Table 4.1: Response Rate**

Response Rate	Frequency	Percentage
Response	40	82.005%
Unresponse	9	0.000
Total	49	100.00%

**Source: Research Findings**

### **4.3 Descriptive Statistics**

Table 4.2 below shows the descriptive statistics of the variables used in the analysis by taking into account the mean, standard deviation, maximum and minimum. The result illustrates that the average return on assets was 0.0921 with stand deviation of 0.0055339. This implies that one unit of total assets invested by the insurance company generated a net income of 0.0921 units on average during the study period. General interest recorded a high of 19.72% with a minimum value at 14.0%. The mean interest rate was 15.879% with a standard deviation of 2.21016. Average mean inflation stood at 14.4935% with a standard deviation of 11.4019. The result also illustrates that maximum inflation was recorded at 31.500% with a minimum of 3.9610%. GDP growth rate registered a mean of 4.115% with standard deviation of 1.17137. The mean value of liquidity risk was 1.77500 with standard deviation of 0.62749. The total assets of the insurance firms had a mean value of Ksh 1,380,620,000.00 with a standard deviation of 721992432.232.

**Table 4.2: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	40	0.0833	0.0988	0.092179	0.0055339
Interest rate	40	14.0169	19.7234	15.879434	2.2101602
Inflation	40	3.961	31.5	14.4935	11.401923
GDP	40	1.55	5.8	4.115667	1.7173726
Liquidity Risk	40	1.15	2.5	1.775	0.627495
Size	40	582000000	2.292E+09	1.381E+09	721992432
Age	40	46	92	74.5	17.213
Valid N (listwise)	40				

**Source: Research Findings**

#### **4.4 Inferential statistics**

The inferential statistics involved the use of correlation and multiple linear regression analysis. The regression analysis was done using Ordinary Least Squares (OLS) method. However, before running the regressions, descriptive statistics and correlation analysis were considered. Correlation analysis shows the relationships between the different variables considered in the study.

##### **4.4.1 Correlation Analysis**

The study sought to establish the relationship between interest rates and the financial performance of insurance companies in Kenya. Pearson Correlation analysis was used to establish the strength of the relationship between interest rate and financial performance of the insurance firms.

**Table 4.3: Correlation Matrix**

		ROA	Interest rate	Inflation	GDP	Liquidity Risk	Size	Age
ROA	Pearson Correlation	1						
	Sig. (2-tailed)							
Interest rate	Pearson Correlation	0.301	1	.				
	Sig. (2-tailed)	0.562						
Inflation	Pearson Correlation	0.01	0.023	1				
	Sig. (2-tailed)	0.985	0.965					
GDP	Pearson Correlation	0.66	0.228	-0.443	1			
	Sig. (2-tailed)	0.154	0.663	0.379				
Liquidity Risk	Pearson Correlation	0.652	.812*	0.213	0.506	1		
	Sig. (2-tailed)	0.16	0.05	0.686	0.306			
Size	Pearson Correlation	0.695	.829*	0.184	0.551	.987**	1	
	Sig. (2-tailed)	0.126	0.042	0.728	0.257	0		
Age	Pearson Correlation	.854*	0.691	-0.113	0.766	.878*	.920**	1
	Sig. (2-tailed)	0.03	0.128	0.832	0.076	0.021	0.009	

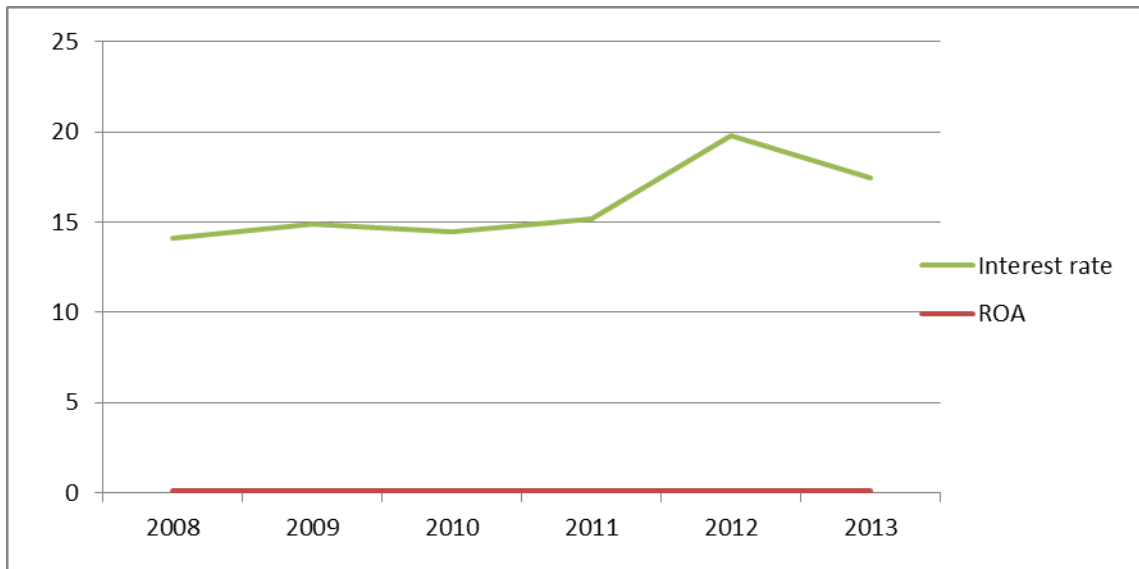
**Source: Research Findings**

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

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The table above indicates the result for correlation result. The result shows that interest rate has a positive but weak relationship with return on assets for the insurance companies (R= 0.301). This depicts that as interest rates rise the ROA increase only with a small margin. However, the findings indicates that inflation and age have strong and positive relationship with the return on assets (R = 0.985, R=0.854).

**Figure 4.1: The Relationship between ROA and Interest Rate**



**Source: Research Findings**

The figure above shows that interest rates and return on assets have been increasing from 2008 to 2013 and as interest rates rise the ROA increase is hardly noticeable.

#### **4.4.2 Regression Analysis**

Regression analysis was used to measure the relationship between individual independent (interest rate, inflation, GDP per capita ratio, liquidity risk, size and age) and dependent variable financial performance measured as (ROA). The regression analysis was of the form:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

##### **4.4.2.1 Model Summary**

Table 4.4 below indicates the model summary for the regression result. The result shows an R-Square of 1 implying that 100% of the total variation in financial performance of the insurance companies is attributed the changes in the explanatory variables (GDP, Age, size, liquidity risk, and the inflation) used in the model..

**Table 4.4: Model Goodness of Fit**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	1.000 <sup>a</sup>	1.000	0	0	1.267

**Source: Research Findings**

a. Predictors: (Constant), Age, Inflation, Interest rate, GDP, Liquidity Risk

b. Dependent Variable: ROA

The study also used Durbin Watson (DW) test to check that the residuals of the models were not auto correlated since independence of the residuals is one of the basic hypotheses of regression analysis. Being that the DW (DW = 1.267) statistics were close to the prescribed value of 2.0 for residual independence, it can be concluded that there was no autocorrelation

#### 4.4.2.2 Analysis of Variance

Analysis of the variance (ANOVA) was used to make simultaneous comparisons between means; thus, testing whether a significant relation exists between dependent and independent variables. ANOVA indicates a significant F statistics implying that the model was fit for the estimation.

**Table 4.5: Analaysis of Variance**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	236	.001	.000	<sup>b</sup>
	Residual	.000	4	.000		
	Total	.000	240	.001		

**Source: Research Findings**

a. Dependent Variable: ROA

b. Predictors: (Constant), Age, Inflation, Interest rate, GDP, Liquidity Risk

### 4.4.2.3 Model Coefficient

Table 4.6 below shows the regression coefficients for the variables used in the model.

**Table 4.6: Regression Coefficient**

Model		Standardized Coefficients	t	Sig.
		Beta		
1	(Constant)	0.0125		
	Interest rate	-.954	-4.0241	0.0001
	Inflation	-.049	-4.4511	0
	GDP	-.743	-4.258	0
	Liquidity Risk	-.045	-3.8451	0.002
	Age	2.117	2.7822	0.5001

a. Dependent Variable: ROA

**Source: Research Findings**

The estimated model therefore becomes:

$$Y \text{ (ROA)} = 0.0125 - 954\text{INT} - 0.049\text{INF} - 0.743\text{GDP} - 0.045 \text{ LQDRISK} + 2.117\text{AGE}$$

Table 4.6 above portray that holding all the explanatory variables constant, insurance companies will realize an average of 0.0125 units in profitability. Interest rates have a negative coefficient of - 954 implying that interest rates negatively affects financial performance of insurance companies.

### 4.5 Interpretation of the Findings

The average financial performance of the insurance companies is 0.0125 units when other factors affecting financial performance are held constant. Interest rate is statistically significant (t = -4.0241, p = 0.0001, p < 0.05) at 5% level of significance in explaining the variation in financial performance of the insurance companies in

Kenya. The result further shows that interest rates negatively affect the return on assets for the insurance companies and a unit increase in interests' rate will lead to 0.954 unit decrease in the financial performance of the insurance companies.

Inflation is statistically significant at 5% level of significance given that  $t=4.4511$ ,  $p = 0.000$ . A unit increase in inflation will lead to 0.049 unit decrease in the financial performance of the insurance companies in Kenya. GDP was established to have a negative coefficient with the return on assets of the insurance companies in Kenya. That is, one unit increase in GDP will lead to 0.743 unit decrease in return on assets for the insurance companies in Kenya. As indicted in the regression coefficient table above, liquidity risk negatively impacts on the return on assets. A unit increase in liquidity risk will result to 0.045 unit decrease on the return on assets. However, age had a positive coefficient with the financial performance of the insurance companies in Kenya and a unit increase in the age of the insurance companies will lead to 2.117 unit increases on the return on assets.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the discussion of key data findings, conclusion drawn from the findings highlighted and recommendations made there-to. The conclusions and recommendations drawn were focused on addressing the researcher's objective, which was to investigate whether interest rates affect the financial performance of licensed insurance companies in Kenya.

#### **5.2 Summary**

The objective of the study was to investigate the effect of interest rates on the financial performance of the insurance companies in Kenya. Both descriptive and inferential statistics were employed specifically using correlation, regression and ANOVA to establish the significance of the model and also to deduce the relationship between financial performances and interest rates. In data analysis and presentation of results findings showed R-squared of 100% implying that GDP, interest rates, age, size, liquidity risk and inflation are major determinant of the return on asset for the insurance companies in Kenya. Using regression outputs of the insurance companies; the study established that interest rates negatively affect the return on assets of the insurance companies in Kenya.

GDP, inflation, liquidity risk were found to have negative coefficient with the return on assets illustrating that an increase in one of these variables will leave a negative effect on the financial performance of the insurance companies. However, the study established that age of the companies has a positive impact on the financial performance of the insurance companies in Kenya.



### **5.3 Conclusion**

The results obtained from the model shows that there is a negative and statistically significant relationship between interest rates and financial performance of insurance companies in Kenya. This implies that interest rate is important in determinant of the financial performance of the insurance companies in Kenya.

From the correlation analysis the result revealed that interest rate has a positive but weak relationship with return on assets for the insurance companies ( $R= 0.301$ ). This depicts that as interest rates rise the ROA increase only with a small margin. However, the findings indicates that inflation and age have strong and positive relationship with the return on assets ( $R = 0.985$ ,  $R=0.854$ ).

Given 5% level of significance in explaining the variation in financial performance of the insurance companies in Kenya, the average financial performance of the insurance companies is 0.0125 units when other factors affecting financial performance are held constant. Interest rate is statistically significant ( $t = -4.0241$ ,  $p = 0.0001$ ,  $p < 0.05$ ). The result further shows that interest rates negatively affect the return on assets for the insurance companies and a unit increase in interests' rate will lead to 0.954 unit decrease in the financial performance of the insurance companies.

### **5.4 Policy Recommendations**

The study recommends that the government through the insurance regulatory authority or any Consumer Financial Protection Agency should ensure that the insurance companies follow the doctrine of interest rates set by CBK when pricing their products so as to ensure to protect consumers from unfair, deceptive, and abusive practices of overpriced policies. Stronger regulations should be set to improve

the transparency, fairness, and appropriateness of consumer and investor products and services.

Central bank as a regulator should monitor general interest rates, because the likelihood of very low interest rate is one reason insurers have redesigned and re-priced some products, offering less-generous features to individuals. These include long-term care insurance and retirement-income products with minimum-income levels. Insurers stand to lose from persistently low interest rates. According to the study, interest rate is a significant factor in influencing the return on assets and therefore it affects the financial performance of insurance companies in Kenya.

The study also advises the management of insurance companies to carefully match their asset and liability cash flows in order to manage their interest rate risk. Insurers should establish a well matched portfolio of their assets and liability in terms of cash flows or rather they should ensure that they create additional reserve so that it can assist them to cover the interest rate since low interest may create a discrepancy on the earnings.

The study further recommends that the insurance regulatory authorities and other critical stakeholders to ensure that ensure the bank-centric capital standards are not applied to insurance companies during financial crisis. They should do so, by mobilizing against bank-focused approach that ultimately would drive up the price of life-insurance products. Insurance companies aren't risky like big banks and therefore both shouldn't be subject to the same rules.

Lastly it is important for the Kenyan government to raise regulatory standards concerning insurers, new requirements for transparency, high quality services and insurance policies, improve international cooperation, stronger regulation of interest

rates, enhancing crisis management tools and improving oversight of financial markets. This will attract foreign investors and expand the insurance industry thus economic growth.

### **5.5 Limitations of the Study**

One of the critical concerns was the credibility, accuracy, validity and dependability of the data. Secondary data being information that has previously been collected by persons may be subject to errors, being out of date and even creative accounting from insurance company management, especially the periodic reports. This study used secondary data obtained from the financial statements electronic journals and websites belonging to the target insurance companies, the Central Bank of Kenya, World Bank, Association of Kenya Insurers (AKI) and Insurance regulatory Authority (IRA), to help evaluate the effect of general interest rates on financial performance of insurance companies in Kenya

An important concern was ability to find study participants, solicit quick and useful feedback during the research study. Some insurance company executives were either unavailable or too busy, others even refused to give consent to access critical and private information or respond fully to the researcher's questions. The researcher also lacked adequate support and proficient guidance from research experts to proof read and to give opinion on conclusions from the study. However, some people agreed to help on condition that it was for academic purposes so the researcher had to do a lot of convincing

A six year period of study from 2008-2013 on just 49 insurance companies is not fully adequate to make conclusions about the effect of general interest rates on financial

performance of the entire insurance industry. A longer period with a bigger population could have yielded different and more reliable results.

Another challenge the researcher faced was the time aspect. More time is required for the researcher to read most if not everything he/she can on the topic. Given that data collection involved visiting the various insurance companies for the information that is not available on the internet and consumed a lot of time. The supervisor of the project was also based in a different campus in a different town from the researcher. Future researchers will need to allocate more time to the project work and prepare to manage this time effectively.

The cost of doing the entire research was also a challenge. Completing the entire research incurred a lot of cost from printing and binding charges, transport fees to various insurance companies to gather data, internet cost among others. Future researchers will need to prepare financially in order to complete the research studies.

## **5.6 Suggestions for Further Research**

This particular study only used a population of 49 insurance companies yet by the end of year 2014, there were 155 licensed insurance industry players in Kenya. Further research study can be carried out in future using a larger population on the relationship between interest rates and financial performance.

This study used six years, a period of study which though helpful, may not quite be adequate to make complete unquestionable conclusions. The researcher recommends further studies on the effect of general interest rates on financial performance be done using a longer period which can reveal more sufficient and conclusive information about the relationship.

Future research studies on the financial performance of insurance companies in Kenya should incorporate more financial, accounting, market and prevailing macro-economic variables in the country as opposed to the current study which only took into consideration six determinants of financial performance as independent variables. This can reveal more determinants of financial performance that should be of great concern for improved performance in the Kenyan insurance industry.

Similar studies can be done on other firms and financial institutions and not just insurance companies investigating on what firm specific, industry specific and macroeconomic factors affect the financial performance. This can help identify the areas of concern in order to improve the financial performance of the firms and enhance economic growth in Kenya.

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## APPENDICES

### Appendix I: Licensed Insurance companies in Kenya as at 31.12.2014

1. AAR Insurance Kenya Limited
2. APA Insurance Limited
3. Africa Merchant Assurance Company Limited
4. Apollo Life Assurance Limited
5. AIG Kenya Insurance Company Limited
6. British-American Insurance Company (K) Ltd
7. Cannon Assurance Limited
8. CIC General Insurance Limited
9. CIC Life Assurance Limited
10. Continental reinsurance limited
11. Corporate Insurance Company Limited
12. Direct line Assurance Company Limited
13. East Africa Reinsurance company ltd
14. Fidelity Shield Insurance Company Limited
15. First Assurance Company Limited
16. GA Insurance Limited
17. GA life assurance Ltd
18. Gateway Insurance Company Limited
19. Geminia Insurance Company Limited
20. ICEA LION General Insurance Company Ltd
21. ICEA LION Life Assurance Company Limited
22. Intra Africa Assurance Company Limited
23. Invesco Assurance Company Limited
24. Kenindia Assurance Company Limited
25. Kenya Orient Insurance Limited
26. Kenya Reinsurance Corporation Limited
27. Liberty Life Assurance Limited
28. Madison Insurance Company Kenya Limited
29. Mayfair Insurance Company Limited
30. Mercantile Insurance Company Limited
31. Metropolitan Life Kenya Limited
32. Occidental Insurance Company Limited
33. Old Mutual Life Assurance Company Limited
34. Pacis Insurance Company Limited
35. Pan Africa Life Assurance Limited
36. Phoenix of East Africa Assurance Company Ltd
37. Pioneer Assurance Company Limited
38. REAL Insurance Company Limited
39. Shield Assurance Company Limited
40. Takaful Insurance of Africa
41. Tausi Assurance Company Limited
42. The Heritage Insurance Company Limited
43. The Jubilee Insurance Company of Kenya Ltd
44. The Kenyan Alliance Insurance Co Ltd
45. The Monarch Insurance Company Limited
46. Trident Insurance Company Limited
47. UAP Insurance Company Limited
48. UAP Life Assurance Limited
49. Xplico Insurance Company Limited

Source: [www.ira.go.ke](http://www.ira.go.ke) (2014)

## Appendix II: Data Collection Sheet

<b>INSURANCE COMPANY NAME</b>							
<b>YEAR</b>	<b>ROA</b>	<b>Age</b>	<b>CPI index</b>	<b>GDP per capita</b>	<b>Liquidity risk</b>	<b>Size</b>	<b>Interest Rates</b>
<b>2008</b>							
<b>2009</b>							
<b>2010</b>							
<b>2011</b>							
<b>2012</b>							
<b>2013</b>							

**Source: Researcher**

### Appendix III: Annual ROA for the Insurance Companies

No	Insurance Company	2008	2009	2010	2011	2012	2013
1	AAR Insurance Kenya Limited	1.5	1.68	4.52	1.25	1.81	0.61
2	Africa Merchant Assurance Company Limited	0.98	1.12	1.21	1.13	4.58	0.37
3	Apollo Life Assurance Limited	3.24	3.67	6.03	4.9	4.61	4.2
4	AIG Kenya Insurance Company Limited	0.83	0.94	0.94	1.75	2.52	0.16
5	British-American Insurance Company (K) Ltd	0.98	1.11	1.12	1.64	2.79	0.16
6	Cannon Assurance Limited	1.49	1.5	1.56	1.27	2.08	0.34
7	Capex Life Assurance Company Limited	2.03	1.15	1.53	1.02	-0.12	1.2
8	CFC Life Assurance Limited	2.8	2.66	2.85	3.23	3.73	0.07
9	CIC General Insurance Limited	1.45	1.56	0.58	0.91	0.97	0.61
10	CIC Life Assurance Limited	0.61	0.69	0.81	0.99	0.43	0.53
11	Kenya Reinsurance Corporation Limited	1.78	1.86	2.61	2.51	2.56	0.3
12	Continental Reinsurance Company Ltd	4.56	1.16	2.85	1.7	0.9	0.5
13	Fidelity Shield Insurance Limited	3.21	3.56	4.53	5.62	6.02	0.61
14	First Assurance Company Limited	4.08	4.52	5.78	7.12	7.67	6.37
15	G A Insurance Limited	5.2	5.75	7.38	9.05	9.79	6.2
16	Gateway Insurance Company Limited	6.18	6.83	8.79	10.73	11.64	10.2
17	Geminia Insurance Company Limited	2.1	2.33	2.94	3.71	3.92	3.2
18	ICEA LION General Insurance Company Ltd	1.3	1.46	1.8	2.35	2.42	1.26
19	ICEA LION Life Assurance Company Ltd	1.31	1.47	1.82	2.37	2.44	2.25
20	Intra Africa Assurance Company Limited	5.3	5.87	7.53	9.22	9.98	5.6
21	Invesco Assurance Company Limited	1.2	1.34	1.65	2.16	2.22	1.64
22	Kenindia Assurance Company Limited	1.32	2.79	3.13	4.54	5.13	1.67
23	Kenya Orient Insurance Limited	1.5	3.08	6.81	4.56	5.35	3.4
24	Madison Insurance Company Kenya Limited	1.41	1.58	1.96	2.54	2.63	2.6
25	Mayfair Insurance Company Limited	4.52	5.01	6.42	7.89	8.51	6.2
26	Mercantile Insurance Company Limited	1.16	1.31	1.6	2.11	2.16	1.7
27	Metropolitan Life Insurance Kenya Limited	0.83	0.94	0.94	1.75	2.52	1.5
28	Occidental Insurance Company Limited	0.98	1.11	1.12	1.64	2.79	4.8
29	Old Mutual Life Assurance Company Limited	1.49	1.5	1.56	1.27	2.08	1.8
30	Pacis Insurance Company Limited	1.78	1.86	2.61	2.51	2.56	4.8
31	Pan Africa Life Assurance Limited	4.56	-11.65	-11.75	0.78	-2.46	-0.254
32	Phoenix of E. Africa Assurance Company Ltd	3.21	3.56	4.53	5.62	6.02	3.8
33	Pioneer Assurance Company Limited	1.5	1.68	4.52	1.25	1.81	3.9
34	Real Insurance Company Limited	3.24	3.67	6.03	4.9	4.61	4.8
35	Resolution Insurance Company Limited	0.83	0.94	0.94	1.75	2.52	1.8
36	Shield Assurance Company Limited	2.28	2.53	3.2	1.99	6.24	5.7
37	UAP Insurance Company Limited	2.03	1.15	1.53	1.02	-0.12	0.27
38	Tausi Assurance Company Limited	2.8	2.66	2.85	3.23	3.73	4.2
39	The Heritage Insurance Company Limited	2.08	2.13	3	1.89	6.04	1.2
40	The Jubilee Insurance Co. of Kenya Limited	0.93	0.84	1.14	1.95	2.82	3.3
41	Takaful Insurance	0.89	1.2	0.7	1.71	2.45	0.49
42	Kenya Alliance Insurance	1.3	1.63	1.72	1.82	2.52	0.38
43	The Monarch Insurance	1.41	1.61	1.12	1.72	1.9	0.41
44	Trident Insurance	1.52	2.3	1.92	2.82	2.19	0.49

#### Appendix IV: Summary of the Independent Variables

<b>Year</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Interest rate (%)</b>	14.02	14.80	14.37	15.05	19.72	17.31
<b>GDP (%)</b>	1.55	2.59	5.75	5.8	4.4	4.6
<b>Inflation (%)</b>	26.24	9.23	3.961	8.36	7.67	31.5
<b>Size(Shilling)</b>	582,000,000	732,450,000	973,800,000	1,619,070,000	2,084,000,000	2,292,400,000
<b>Age(Years)</b>	46	65	72	85	87	92
<b>Liquidity Ratio</b>	1.2	1.15	1.3	2.1	2.4	2.5

**Source: Research findings**