

**RELATIONSHIP BETWEEN PORTFOLIO HOLDING AND FINANCIAL  
PERFORMANCE OF INSURANCE COMPANIES IN NAIROBI COUNTY**

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**DECLARATION**

I, Margaret Nyora, hereby declare that this is my original work and has not been submitted for presentation and examination for any award of Degree in this university or any other University.

Signature ..... Date.....

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

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## **DEDICATION**

I dedicate this study to my dear family members and my husband for all the support they gave me as I prepared and worked on this project.

## TABLE OF CONTENTS

|   |     |
|---|-----|
| <u>DECLARATION</u> .....  | iii |
| <u>ACKNOWLEDGEMENTS</u> .....   | iv  |
| <u>DEDICATION</u> .....   | v   |
| <u>LIST OF TABLES</u> .....   | ix  |
| <u>LIST OF ABBREVIATION</u> .....   | x   |
| <u>ABSTRACT</u> .....   | xi  |
| <u>CHAPTER ONE</u> .....  | 1   |
| <u>INTRODUCTION</u> .....   | 1   |
| <u>1.1 Background of the Study</u> .....  | 1   |
| <u>1.1.1 Portfolio Holding</u> .....  | 2   |
| <u>1.1.2 Financial Performance</u> .....  | 4   |
| <u>1.1.3 The Relationship between Portfolio Holding and Financial performance</u> ..... | 5   |
| <u>1.1.4 Insurance Industry in Kenya</u> .....  | 6   |
| <u>1.2 Statement of the problem</u> .....   | 9   |
| <u>1.3 Research Objective</u> .....   | 11  |
| <u>1.4 Value of the Study</u> .....   | 11  |
| <u>CHAPTER TWO</u> .....  | 12  |
| <u>LITERATURE REVIEW</u> .....  | 12  |
| <u>2.1 Introduction</u> .....   | 12  |

|   |    |
|---|----|
| <a href="#"><u>2.2 Theoretical Review</u></a> .....                   | 12 |
| <a href="#"><u>2.2.1 Modern portfolio Theory</u></a> .....            | 12 |
| <a href="#"><u>2.2.2 Capital Asset Pricing Model</u></a> .....        | 13 |
| <a href="#"><u>2.2.3 Arbitrage Pricing Theory</u></a> .....           | 14 |
| <a href="#"><u>2.3.1 Portfolio Performance Measures</u></a> .....     | 17 |
| <a href="#"><u>2.4 Review of Empirical studies</u></a> .....          | 20 |
| <a href="#"><u>2.5 Summary of the Literature Review</u></a> .....     | 25 |
| <a href="#"><u>CHAPTER THREE</u></a> .....                            | 26 |
| <a href="#"><u>RESEARCH METHODOLOGY</u></a> .....                     | 26 |
| <a href="#"><u>3.1 Introduction</u></a> .....                         | 26 |
| <a href="#"><u>3.2 Research Design</u></a> .....                      | 26 |
| <a href="#"><u>3.3 Population of the Study</u></a> .....              | 26 |
| <a href="#"><u>3.4 Data Collection</u></a> .....                      | 26 |
| <a href="#"><u>3.5 Data Analysis</u></a> .....                        | 27 |
| <a href="#"><u>3.5.1 Analytical Model</u></a> .....                   | 27 |
| <a href="#"><u>3.5.2 Test of Significance</u></a> .....               | 27 |
| <a href="#"><u>CHAPTER FOUR: DATA ANALYSIS, RESULTS AND</u></a> ..... | 28 |
| <a href="#"><u>DISCUSSION</u></a> .....                               | 28 |
| <a href="#"><u>4.1 Introduction</u></a> .....                         | 28 |
| <a href="#"><u>4.2: Descriptive statistics</u></a> .....              | 28 |

|   |    |
|---|----|
| <a href="#"><u>4.3 Regression Analysis</u></a> .....                            | 30 |
| <a href="#"><u>4.4 Interpretations of findings</u></a> .....                    | 33 |
| <a href="#"><u>CHAPTER FIVE</u></a> .....                                       | 35 |
| <a href="#"><u>SUMMARY, CONCLUSIONS AND RECOMMENDATIONS</u></a> .....           | 35 |
| <a href="#"><u>5.1 Introduction</u></a> .....                                   | 35 |
| <a href="#"><u>5.2 Summary</u></a> .....  | 35 |
| <a href="#"><u>5.3 Conclusions</u></a> .....                                    | 36 |
| <a href="#"><u>5.4: Limitations</u></a> .....                                   | 36 |
| <a href="#"><u>5.5 Recommendations</u></a> .....                                | 36 |
| <a href="#"><u>APPENDICES</u></a> .....   | 40 |
| <a href="#"><u>Appendix I: List of Insurance Companies in Nairobi</u></a> ..... | 40 |

## LIST OF TABLES

|  |    |
|--|----|
| <a href="#"><u>Table 4.1: Descriptive Statistic</u></a> .....              | 28 |
| <a href="#"><u>Table 4.2: Model's Goodness of Fit Statistics</u></a> ..... | 31 |
| <a href="#"><u>Table 4.3: Analysis of Variance (ANOVA)</u></a> .....       | 31 |
| <a href="#"><u>Table 4.4: Regression Coefficients</u></a> .....            | 32 |



## **LIST OF ABBREVIATION**

NAIC National Association of Insurance Companies

CAPM Capital Asset Pricing Model

US United States

COMESA Common Market for Eastern and Southern Africa

GDP Gross domestic Product

CARG Compound Annual growth rate

MPT Modern portfolio Theory

TB Treynor black

IRA Insurance Regulatory Authority

AKI Association of Kenya Insurance

RBA Retirement Benefit Authority

## **ABSTRACT**

The insurance industry is important in an economy. Insurance business has stringent laws regarding investments following its long term nature. The objective of this study was to establish the relationship between portfolio holding and financial performance of insurance companies in Nairobi county. The study adopted a Descriptive research design. All insurance companies operating in Kenya as at 31st December, 2014 were included in the study hence a census. The main source of data was secondary data from the Insurance Regulatory Authority, Association of Kenya Insurers, and insurance companies themselves. The researcher conducted a multiple regression analysis in order to determine the relationship between portfolio holding and financial performance of insurance companies in Kenya. The study established that the insurance industry has always invested heavily in the different sectors of the economy. The study found that there is a positive and strong relationship between portfolio and financial performance of the insurance companies. The study further found that there is an inverse relationship between investment in stock and the overall profitability in the insurance industry. The study found that investment in real estate had a direct relationship with the overall profitability of the insurance industry whereby increased investment in government securities lead to increase in profitability of the insurance industry. This study further found that investment in bank deposits by insurance firms affects the profitability of the insurance industry positively. The study recommends that insurance firms should encourage investments in stocks, government securities, real estates and bank deposits. This will enhance profitability in the insurance industry. The study further recommends that customers should be enlightened on the operation of investments in order to enhance their profitability and performance. Additionally, the study recommended that insurance agent should be frequently trained on the operation process and policies to eradicate occurrence of error and mistake that are highly hindering penetration of insurance.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Portfolio optimization is one of the important information to the investors before they make an investment because of its direct relationship with financial performance of an organization. The term portfolio refers to the combination of assets having return and risk characteristics of their own, which in combination make up a portfolio (Donald and Ronald, 1993). Performance of an organization refers to the outcome of activities of individuals and units of the organization. This can be measured in different ways depending on the purpose for which the information is required. One of the most basic tenets of modern financial theory is that managers should act in a manner consistent with maximizing the value of owners' equity. For the insurance industry, the performance is measured in different ways including profitability, timely claims settlement and liquidity which enable it to meet its financial obligations as and when they fall due.

Insurance is by large regarded as one of the best savings cum investing scheme. They stand with investors at moments of disaster and try to uphold investors by providing a lump sum amount benefit to the investors in case of an insured against event materializing. The insured investor pays some amount called premium to the insurance company for the purchase of the insurance cover which is the subject of their relationship. Insurance companies have to manage their collections by investing within the regulated framework by the various authorities including the Retirement Benefits Authority, Insurance Regulatory Authority and Association of Kenya insurers. In going about their investments, the insurance companies have to have investment and settlement and liquidity which enable it to meet its financial obligations as and when they fall due.

An effective control over the performance requires insurance companies to utilize their resources optimally by diversifying their investments in different asset classes. Investment earnings made by insurance firms make a valuable contribution to their operating results and enable them to reduce premiums and increase dividends and bonuses, thereby improving their competitiveness (Cummins and Grace, 1994; Citibank, 1994). It's also evident that linking investment earnings to firm-specific factors such as organizational form and size could enable policyholders and shareholders to make better-informed insurance and investment choices (Boose, 1993). Ideally, a portfolio manager should increase the systematic risk of the portfolio in anticipation of a market upturn and decrease the beta prior to a market downturn.

### **1.1.1 Portfolio Holding**

The term portfolio refers to the combination of assets or total collection of all investments held by an individual or institution. Securities that have return and risk characteristics of their own, in combination make up a portfolio (Donald and Ronald, 1993). Portfolio holding may encompass a wide range of investment products, from stocks, bonds and mutual funds to options, futures and exchange-traded funds, and relatively esoteric instruments such as private equity and hedge funds. Portfolios contain group of securities that are selected to achieve the highest return for a given level of risk. How well this is achieved on how the portfolio manager is able forecast the economic condition or future prospects of companies. The number of holdings contributes to the degree of its diversification within the portfolio. A mix of stocks across different sectors, bonds of different maturities, and other investments would suggest a well-diversified portfolio, while concentrated holdings in a handful of stocks within a single sector indicates a portfolio with very limited diversification.

The proportion of holdings within a portfolio has a significant impact on its overall return, with the performance of the largest holdings having a bigger influence on portfolio return than small or marginal holdings. According to modern portfolio theory, (Markowitz 1952) one can reduce their investment risk by creating a diversified portfolio that includes enough different types, or classes, of securities so that at least some of them may produce strong returns in any economic climate. The asset mix of an insurance company's investment portfolio varies over time based on different influences, including both macroeconomic and industry-specific factors. The general state of the global economy, industry trends, market and political events also impact investment management decisions. Similar to other industries, an adjustment to risk appetite tends to also result in an adjustment to investment strategies and philosophies. In a strong economy, risk appetite tends to increase and the converse is true during poor economic conditions.

The NAIC Capital Markets Bureau studied the insurance industry's portfolio mix across the five general insurance company types (life, property/casualty, fraternal, health and title) as of year-end 2010, year-end 2008 and year-end 2005. Depending on the insurer type, portfolio compositions could vary, due mostly to appropriately matching assets to liabilities and taking into consideration relative duration and liquidity risk. For example, life companies have longer-term liabilities than property/casualty companies; therefore, the former invests more heavily in longer-term assets, such as bonds with 30-year maturities, than the other industries. Consistently in each of the three analyzed years, bonds represented the majority of insurance industry investments, ranging between 68% and 71% of total cash and invested assets. And, within the bond sector, the largest type across all three years was corporate bonds, ranging between approximately 43% and 48% of total bond investments. Investment across other asset types tended to vary.

This report discussed findings relative to asset mixes, a breakdown of the bond sector and a further breakdown of the bond exposure as of year-end 2010 into sectors/industries. In addition, there was the asset mix and bond sector breakdown as of year-end 2008 and year-end 2005. As of year-end 2010, the U.S. economy seemed to be on a path to recovery; however, over the past few months, this has become uncertain. There is continued distress within the financial markets, particularly banks, as well as ongoing concerns about residential and commercial real estate, which appears to be worsening modestly. As a result, current market sentiment indicates a “flight to quality”; that is, a conscious move to safer, less-volatile and shorter duration investments. At the same time, the insurance industry invests with certain overall strategies in mind, such as matching assets to liabilities in terms of maturity and interest rate risk, including managing duration, liquidity requirements, and overall risk appetite/volatility tolerance.

Combined with the investment strategies that each insurance company has documented in their statement of investment policy and guidelines, they also take into consideration macroeconomic trends and fundamental credit analysis in determining their investment portfolio composition. Investment earnings made by insurance firms make a valuable contribution to their operating results and enable them to reduce premiums and increase dividends and bonuses, thereby improving their competitiveness (Cummins and Grace, 1994; Citibank, 1994).

### **1.1.2 Financial Performance**

This is the level or performance of a business over a specified period of time, expressed in terms of overall profits and losses during that time or the firm's. Evaluating the financial performance of a business allows decision makers to judge the results of business strategies and activities in objective monetary terms. Traditionally, financial performance measures are split into profitability, liquidity or working capital, gearing and investor ratios. Financial Performance

Ratios is used to measure the financial performance of a business. A financial ratio is an important tool for businesses and managers to measure the progress for achieving the targeted goals. Some of the important financial ratios which a firm would like to analyze include: liquidity ratio, profitability ratios and financial leverage ratios among others. Walker, (2001) indicated that measuring the results of a firm's policies and operations in monetary terms constitutes financial performance where the results are reflected in the firm's return on investment, return on assets, value added, etc. Almajali et al. (2012) argues that there are various measures of financial performance. For instance return on sales reveals how much a company earns in relation to its sales, return on assets explain a firm's ability to make use of its assets and return on equity reveals what return investors take for their investments. Company's performance can be evaluated in three dimensions. The first dimension is company's productivity, or processing inputs into outputs efficiently.

The second is profitability dimension, or the level of which company's earnings are bigger than its costs. The third dimension is market premium, or the level at which company's market value is exceeds its book value (Walker, 2001).

Weiner and Mahoney (1981) indicated that numerous measures of corporate performance could be used as dependent variables. However, more important than a specific measure chosen is the use of multiple measures, because different criteria of performance are likely to be differentially affected by the various independent variables (Liebersohn and O'Connor, 1972)

### **1.1.3 The Relationship between Portfolio Holding and Financial performance**

Different securities perform differently at any point in time, so with a mix of asset types, your entire portfolio does not suffer the impact of a decline of any one security. When your stocks go

down, you may still have the stability of the bonds in your portfolio. There have been all sorts of academic studies and formulas that demonstrate why diversification is important, but it's really just the simple practice of "not putting all your eggs in one basket." If you spread your investments across various types of assets and markets, you'll reduce the risk of catastrophic financial losses. Investing in different investments improves a company's chances of earn a good return although not guaranteed because of the uncertainty facing the investments. Construction of an efficient investment portfolio enables the firm to diversify its risks thereby improving the earning ability of the portfolio (Oyatoye&Arileserre,2012).

International diversification provides a good example of the effects of diversifying across asset classes. A portfolio that has invested 50% in domestic large-cap stocks and 50% in international large-cap stocks would have approximately half the residual risk of a portfolio comprised solely of domestic large-cap stocks, assuming that the investments in each market were sufficiently diversified to eliminate specific risk. Some investors may choose to be exposed to specific risk with the expectation of realizing higher returns. But this is contrary to financial theory and such investors are therefore deemed to be irrational. Deliberate exposure to specific risk is unnecessary and is essentially gambling...unless you are trading on inside information which again is a flagrant violation of the securities laws.

#### **1.1.4 Insurance Industry in Kenya**

The concept of insurance and particularly the social insurance programme dealing with socio-economic problems has been around Africa for a long time (Kenyatta, 1962). Members of a community pooled together resources to create a "social insurance fund". The premiums ranged from material to moral support or other payments in kind. From the fund, drawings were made out to support the few unfortunate members exposed to perils (Azevedo, 1993). However, the



history of the development of commercial insurance in Kenya is closely related to the historical emancipation or freeing of Kenya as a nation (Throup, 1988). In the forty years since independence, Insurance industry in Kenya has flourished, and by 2002 had 41 registered insurers, 15 transacting general insurance business, 2 transacting life business, while 24 were composite insurers – transacting both life and general insurances. Kenya's insurance industry leads within the East Africa Community (a trading block of Kenya, Uganda, Tanzania and Rwanda), and is a key player in the COMESA region, (Common Market for Eastern and Southern Africa). The industry employs over 10,000 people. The largest 10 insurers handle over 70% of the motor business with a similar number handling well over 90% of the property business in the market. According to the World Bank, Kenya is the ninth-largest economy in Africa. The country's real GDP increased from KES1.7 trillion (US\$22.2 billion) in 2009 to KES2.3 trillion (US\$26.9 billion) in 2013, at a compound annual growth rate (CAGR) of 4.9%. Economic growth slowed in 2008-2009 due to the global financial crisis, political instability and a decline in exports. Currency depreciation and elevated inflation rates were other factors that contributed to the slowdown. The economy began a period of recovery in 2010, as a result of the strong performance of the agriculture, manufacturing and real estate sectors thus insurance industry also getting involved in real estate and other areas of investments.

The Kenyan insurance industry grew at a CAGR of 20.3% during the review period. This growth was achieved due to various factors, such as the expansion of the distribution network and premium growth. The personal accident and health insurance segment registered a CAGR of 28.8% during the review period (2009-2013). Health insurance was one of the fastest growing categories within the segment, and accounted for 86.3% of the total personal accident and health segment's share in 2013. Approval of the two newly licensed medical insurance underwriters in

2012 supported the growth of the health insurance category, at a CAGR of 41.2% during 2010-2013. Nairobi being the capital city has the highest number of insurance companies which have seen tremendous growth. The insurance industry of Kenya is supervised and regulated by the Insurance Regulatory Authority (IRA). The industry is served by 49 registered insurance companies, of which 23 are in life insurers and 36 are in non-life insurers (including personal accident and health insurance).

Insurance companies in Kenya have embraced portfolio holding whereby they have been offering so many products like Motor Insurance, Fire Insurance, Aviation, Engineering, Theft, Workmen's Compensation, Personal Accident Insurance, Liability Insurance, Marine and Life Insurance. Kenya Insurance Survey (2004). They have also gone ahead and started investing in government securities, others have gone to owning real estate businesses and other assets, not forgetting investing in bank deposits and also working hand in hand with some banks. One of insurance's key roles is safeguarding the financial health of small and medium-sized enterprises. Insurance cover is crucial for people to insure themselves against inability to work, set aside money for retirement or protect themselves against the loss of their assets. This is where insurance comes in as a key component in ensuring the healthy development of small and medium-sized enterprises. A sophisticated insurance sector is also important in encouraging domestic production, innovation and trade. Insurance reduces the investment risk faced by companies and the state. Many companies find it far more expensive, if not impossible, to take out a loan without purchasing the requisite insurance protection. Insurance thereby reduces the costs of raising the capital they need. This is especially important in emerging markets, as a shortage of capital is one of the major disincentives to investment.

## **1.2 Statement of the Problem**

Insurance business has strict laws regarding investments following its long term nature. As such several organs of Government including Retirement Benefits Authority, Insurance Regulatory Authority, Central Bank, and capital Markets Authority regulate the way in which such investments should be handled. As a result, insurance companies have to adhere by these rules and guidelines hence investing with caution which may affect their profitability. The insurance industry has always invested heavily in the different sectors of the economy. The investment income has also increased tremendously to a high of Kshs. 23.93 billion in the financial year 2010. The role of the insurance industry is to provide economic protection from identified risks. The activities of insurance companies include underwriting insurance policies (including determining the acceptability of risks, the coverage terms, and the premium), billing and collecting premiums, and claims made under policies. Recently we have seen the insurance companies diversify their operations outside our borders into other markets including Uganda, Tanzania, Southern Sudan, Rwanda and others regions, and holding portfolios from owning assets like owning several buildings within the city centre for commercial purposes, control the Nairobi stock exchange, owning and getting involved in real estate business, to having bank deposits and also investing in government securities. Others have also invested heavily in unrelated areas that include securities, properties, mortgages and loans.

Several studies have been done on the relationship between portfolio holding and financial performance. Kaaria (2003) evaluated property portfolio construction and performance analysis in Kenya using a case study of registered pension schemes. The study revealed that while there are procedures for the assessment of long term investments, these were not applied to property

on a continuous basis like in securities or equities but only during acquisitions or disposals. Kagunga (2010) did a comparison of performance between unit trusts and a market portfolio of shares at Nairobi stock Exchange and established that both the Jensen alpha and adjusted alpha confirmed the positive returns from unit trust in the four out of five years under study. Mwangi (2010) conducted a study on implementation of the diversification strategy at the Standard group (K) Ltd. He found that the Standard group adopts the diversification strategies to maximize and compete effectively in the media market. Hifza (2011) examined the determinants of insurance companies' profitability by conducting an analysis of insurance sector of Pakistan and established that key determinants included market base which determined how much premium was collected and claims paid out.

Abdalla (2012) examined the validity of modern portfolio theory using evidence from the Nairobi Securities Exchange and established that the Sharpe measure was in favor of the optimal portfolio. Mwatuwano (2012) evaluated the performance of islamically screened portfolios at the Nairobi Stock Exchange where weekly risk and returns were calculated for the two portfolios. Sharpe, Treynor and Jensen measures were also used to measure their performance. The results for risk adjusted returns were mixed; the Sharpe measure was in favor of the Islamic portfolio while the Treynor ratio was in favour of the conventional portfolio. Most studies have focused on portfolio management with no focus on insurance industry particularly in Nairobi County and also argue from different stand points. This study therefore sought to fill this research gap by answering one research question: What is the relationship between portfolio holding and financial performance of insurance companies in Nairobi County?

### **1.3 Research Objective**

To establish the relationship between portfolio holding and financial performance of insurance companies in Nairobi county.

### **1.4 Value of the Study**

This study would be of importance to different stakeholders like future researchers and academicians in the area of finance and especially portfolio management. The findings of this study would act as a source of reference for future scholars besides suggesting areas for further research where they can extent knowledge on. The findings of this study would also be valuable to policy makers on the management of investment behavior and portfolio management in the insurance industry in the capital and Kenya as a whole. Through the findings of this study, key regulators in the insurance industry including the Insurance Regulatory Authority, Retirement Benefits Authority and Central bank of Kenya would learn new ways on how to develop rules and regulations governing the investment behavior of the Insurance industry. The findings of this study would also be valuable to investment stakeholders in the insurance industry as it would inform them of the different ways of forming a portfolio and how it can affect financial performance.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews the literature on portfolio holding and firm performance. The chapter also describes the theoretical and empirical review of the research project.

#### **2.2 Theoretical Review**

##### **2.2.1 Modern portfolio Theory**

Modern portfolio theory (MPT) hypothesis put forth by Harry Markowitz in his paper "Portfolio Selection," (1952) is an investment theory based on the idea that risk-averse investors can construct to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward. It is one of the most important and influential economic theories dealing with investment. Also called "portfolio theory" or "portfolio management theory," MPT suggests that it is possible to construct an efficient frontier of optimal portfolios, offering the maximum possible for a given level of risk. It suggests that it is not enough to look at the expected risk and return of one particular stock. By investing in more than one stock, an investor can reap the benefits of diversification, particularly a reduction in the riskiness of the portfolio. MPT quantifies the benefits of diversification, also known as not putting all of your eggs in one basket.

The risk in a portfolio of diverse individual stocks will be less than the risk inherent in holding any one of the individual stocks (provided the risks of the various stocks are not directly related). Consider a portfolio that holds two risky stocks: one that pays off when it rains and another that pays off when it doesn't rain. A portfolio that contains both assets will always pay off, regardless

of whether it rains or shines. Adding one risky asset to another can reduce the overall risk of an all weather portfolio. In other words, Markowitz showed that investment is not just about picking stocks, but about choosing the right combination of stocks among which to distribute one's nest egg. The insurance in Kenya has been seen combining different securities and investing in them like the real estate business, investing in bank deposits, government securities and also mutual funds. Thus the theory suggesting that investors can improve the performance of their portfolios by allocating their investments into different classes of financial securities and industrial sectors that are not expected to react similarly if new information emerges. Solnik (1974) extends this theory to an international context and suggests that diversifying globally, as opposed to a strictly domestic portfolio, will lead to optimization of the risk-return tradeoff. Markowitz uses risk as a measurement of the likelihood that an investment will go up and down in value – and how often and by how much. The theory assumes that investors prefer to minimize risk. The theory assumes that given the choice of two portfolios with equal returns, investors will choose the one with the least risk. If investors take on additional risk, they will expect to be compensated with additional return. Diversification generally does not protect against systematic risk because a drop in the entire market and economy typically affects all investments. However, diversification is designed to decrease unsystematic risk. Since unsystematic risk is the possibility that one single thing will decline in value, having a portfolio invested in a variety of stocks, a variety of asset classes and a variety of sectors will lower the risk of losing much money when one investment type declines in value.

### **2.2.2 Capital Asset Pricing Model**

This is a model that describes the relationship between risk and expected return and that is used in the pricing of risky securities. The background of CAPM was the study of the influence of

investor behavior on asset prices. The result of that study was a theory of asset valuation in an equilibrium situation, drawing together risk and return, which is the CAPM (Lintner, 1966)It helps measure portfolio risk and the return an investor can expect for taking that risk. The general idea behind CAPM is that investors need to be compensated in two ways: time value of money and risk. The time value of money is represented by the risk-free rate and compensates the investors for placing money in any investment over a period of time. It also represents risk and calculates the amount of compensation the investor needs for taking on additional risk. This is calculated by taking a risk measure (beta) that compares the returns of the asset to the market over a period of time and to the market premium. Insurance industry in Kenya is has divided its total industry portfolio of loss exposure into segments or lines of business with different risks characteristics.

### **2.2.3 Arbitrage Pricing Theory**

An asset pricing model based on the idea that an asset's returns can be predicted using the relationship between that same asset and many common risk factors. According Stephen Ross (1976), this theory predicts a relationship between the returns of a portfolio and the returns of a single asset through a linear combination of many independent macro-economic variables.

The arbitrage pricing theory (APT) describes the price where a mispriced asset is expected to be. It is often viewed as an alternative to the capital asset pricing model (CAPM), since the APT has more flexible assumption requirements. Whereas the CAPM formula requires the market's expected return, APT uses the risky asset's expected return and the risk premium of a number of macro-economic factors. Arbitrageurs use the APT model to profit by taking advantage of mispriced securities. A mispriced security will have a price that differs from the theoretical price predicted by the model. By going short an overpriced security, while concurrently going long the



portfolio the APT calculations were based on, the arbitrageur is in a position to make a theoretically risk-free profit. According to William N. Goetzmann (1997), APT gives up the notion that there is one right portfolio for everyone in the world, and it replaces it with an explanatory model of what drives asset returns. The world of the APT is not some ideal, knife-edge equilibrium in which all investors are stuck in the same portfolio. It is a world with many possible sources of risk and uncertainty. More formally, it is based upon the assumption that there are a few major macro-economic factors that influence security returns. No matter how thoroughly you diversify, you can't avoid these factors, although you can tilt your portfolio away from them. The APT claims that investors will price these factors precisely because they are sources of risk that can't be diversified away. That is, they will demand compensation in terms of expected return for holding securities exposed to these risks. Just like the CAPM, this exposure is measured by a factor beta. It is tempting to see the APT as a behavioral model. It describes a world in which investors behave intelligently by diversifying, but they may choose their own systematic profile of risk and return by selecting a portfolio with its own peculiar array of betas. While formal proofs of the APT rely upon static equilibrium arguments, the spirit of the APT is an active one. It allows a world where occasional mispricing occurs. Investors constantly seek information about these mispricings and exploit them as they find them. It allows for an industry of information collectors, risk arbitrageurs and speculators. It allows for different types of investors as well as evolving types of risks. In other words it describes a world somewhat closer to the world in which we live. In conclusion the APT is a useful tool for building portfolios adapted to particular needs which is really needed by the insurance industry which is such a broad industry today.

## **2.3 Determinants of Financial Performance**

Performance outcomes result from success or market position achieved (Hooley, Greenley, Cadogan, and Fahy, 2005). Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals. Organizational performance means attainment of ultimate objectives of the organization as set out in the strategic plan. Performance can be determined in various ways. While there is a range of specific models, major determinants of firm-level profitability include: characteristic of the industry in which the firm competes; the firm's position relative to its competitors; and the quality or quantity of the firm's resources. Weiner and Mahoney (1981) indicated that numerous measures of corporate performance could be used as dependent variables. However, more important than a specific measure chosen is the use of multiple measures, because different criteria of performance are likely to be differentially affected by the various independent variables (Liebersohn and O'Connor, 1972). Financial Performance Ratios is used to measure the financial performance of a business. A financial ratio is an important tool for businesses and managers to measure the progress for achieving the targeted goals. Some of the important financial ratios which a firm would like to analyze include: liquidity ratio, profitability ratios and financial leverage ratios among others. Portfolio choice is an example of sequential decision making under uncertainty. Investors must consider their attitudes towards risk and reward in face of an unknown future, order to make complex financial choices. The purpose of investing in a portfolio is to cushion oneself from the changes in returns among the selected investment options. Ideally, a portfolio manager should increase the systematic risk of the portfolio in anticipation of a market upturn and decrease the beta prior to a market downturn. Investing in different investments improves a company's chances of earn a good return although not guaranteed because of the uncertainty facing the investments. Construction of an efficient investment portfolio enables the firm to diversify its risks thereby improving the earning ability of the portfolio (Oyatoye&Arileserre, 2012). Oyatoye&Arileserre (2012) states that as it is crucial for insurance industry to survive and develop, the insurance investment enables insurance companies to offset their possible underwriting losses

and make a considerable profit. Mukati (2012) states that the risk faced by an insurance fund manager differs from what the typical fund manager faces because of the fact that the risk in insurance investment management must factor in the liability side of its balance sheet that includes benefit amounts for shareholder capital as well as the reserves that are necessary for the insurer future claims

### **2.3.1 Portfolio Performance Measures**

Performance is the return or increase in wealth over time of an investment relative to the amount of risk investor is taking. Performance measurement provides a risk adjustment return assessment. Portfolio performance measures and asset pricing models are inextricably linked, and the development of portfolio performance measures in the literature mirrors the development of empirical asset pricing models. Daniel et al. (1997) further refine style-based performance measures by examining the actual holdings of mutual funds, and measuring the characteristics of the stocks held by the fund. The characteristics include the market capitalization or size, a measure of value (the ratio of book value to market value), and the return over the previous year. For a given fund, the OE portfolio is formed by matching the characteristics of the portfolio held by the fund with “passive” portfolios constructed to have the same characteristics. With this approach the measured performance is a zero-sum game, as the average performance measured in the peer group must be zero. This approach can make it easy to control for costs and risks, to the extent that the portfolio and its peers are similar in these dimensions. In such cases, the performance differential can be a relatively clean measure of value added

#### **2.3.1.1 The Sharpe Ratio**

Used by Sharpe (1966) to evaluate mutual fund performance, The Sharpe ratio is a risk-adjusted measure. Markowitz (1952), the founder of Modern Portfolio Theory (MPT), suggested that investors choose optimum portfolios on the basis of their expected return and risk characteristics.

As noted above, the overall risk of a portfolio is measured by the standard deviation of its returns. Sharpe used this concept to build a "reward to variability" ratio which has become known as the Sharpe Index. The Sharpe ratio measures the degree to which a portfolio is able to yield a return in excess of the risk-free return to cash, per unit of risk. The Sharpe ratio is traditionally thought to make the most sense when applied to an investor's total portfolio, as opposed to any particular fund that represents only a portion of the investor's portfolio. The assumption is that what the investor really cares about is the volatility of his or her total portfolio, and various components of the portfolio combine to determine that via diversification, depending on the correlations among the various components. If applied to a single fund in isolation, the Sharpe ratio ignores the correlation of the fund with the other investments in the portfolio, and so it may not correspond in any meaningful way to the desirability of the fund as an investment. It can be defined as  $(\text{Portfolio Return} - \text{Risk-Free Rate}) / \text{Standard Deviation}$

### **2.3.1.2 Jensen's Alpha**

Alpha is perhaps the most well-known of the classical measures of investment performance. Using the market portfolio of the CAPM Jensen (1968) advocated the original version, or Jensen's alpha. The most convenient way to define Jensen's alphas is as the intercept. (CAPM) (Hendrick and Marco, 2005). In this model, among the assumptions, it is taken that every investor holds a diversified portfolio. This allows investors to diversify away some of their investment risk, leaving them exposed only 'systematic' or non-diversifiable market-related risk. Jensen's Alpha uses only systematic risk for scaling a portfolio's return. Alpha measures the deviation of a portfolio's return from its equilibrium level, defined as the deviation of return from the risk-adjusted expectation for that portfolio's return.

### **2.3.1.3 Treynor Black Framework**

Jack L. Treynor was the first to provide investors with a composite measure of portfolio performance that also included risk. Treynor's objective was to find a performance measure that could apply to all investors, regardless of their personal risk preferences. He suggested that there were really two components of risk: the risk produced by fluctuations in the market and the risk arising from the fluctuations of individual securities. Treynor introduced the concept of security market line which defines the relationship between portfolio returns and market rates of returns, whereby the slope of the line measures the relative volatility between the portfolio and the market as presented by beta. The beta coefficient is simply the volatility measure of a stock portfolio. The greater the line's slope, the better the risk-return tradeoff. The Treynor measure, also known as the reward to volatility ratio, can be easily defined as:  $(\text{portfolio return} - \text{risk free rate}) / \text{beta}$ . The higher the Treynor measure, the better the portfolio. Treynor and Black (1973) deal with a scenario in which the mean-variance criterion (the Sharpe ratio) is used by investors; a specified market index is taken as the default efficient (passive) strategy, and the security analysts of a portfolio management firm cover a limited number of securities. Under these conditions, securities that are not analyzed are assumed to be efficiently priced, and a portfolio of only the covered securities cannot be efficient. The optimal portfolio must be a mix of the covered securities and the index portfolio. To identify the portfolio of only the covered securities, the efficient Active Portfolio, that can be mixed with the index Passive Portfolio, to obtain the optimal risky portfolio.

### **2.3.1.4 Standard Deviation**

Markowitz (1952) suggested the use of standard deviation as a measure of risk. This metric measures the dispersion of returns from a central average value. The metric has distributional

properties that allow inferences to be drawn. For instance, if the returns produced by a fund follow a bell-shaped normal distribution, then 95 times out of a hundred the return should be within plus or minus two standard deviations of the long term average. The greater the standard deviation, the greater the fund's volatility. When analyzing risk of a portfolio the two most common terms investors confront are variance and standard deviation. The importance of variance of a random variable is in characterizing the scale of measurement and the spread of the probability distribution. Standard deviation is the square root of the variance of the random variable. Likewise variance, it measures the spread or dispersion of a distribution and it has the advantage of being in the same units of measure as the random variable (Hill *et al*, 2001). Standard deviation is usually used to refer to risk. Portfolio performance measures should be a key aspect of the investment decision process. These tools provide the necessary information for investors to assess how effectively their money has been invested (or may be invested). Remember, portfolio returns are only part of the story. Without evaluating risk-adjusted returns, an investor cannot possibly see the whole investment picture, which may inadvertently lead to clouded investment decisions.

## **2.4 Review of Empirical studies**

Various studies have been undertaken on portfolio holding and financial performance. For instance, Hifza (2011) examined the determinants of insurance companies' profitability by conducting an analysis of insurance sector of Pakistan and established that key determinants included market base which determined how much premium was collected and claims paid out.

Hart (1965) expressed the view that insurance companies are by nature predominantly long-term, fixed-income investors. As such, they would not have invested greater amounts in equities even if permitted to do so by state laws. Hart's position reaffirmed the philosophy expressed by Bailey

in his famous 1862 paper/ that is, that an insurer's primary responsibility is to ensure safety and soundness rather than investment return .Kaaria (2003) examined property portfolio construction and performance analysis in kenya using a case study of registered pension schemes. The issues of concern were the factors considered during the construction of property portfolios and after portfolio construction, the presence or absence of procedures for the assessment of the performance of these portfolios in order to obtain a rational basis for portfolio revision.The study further looks into the challenges faced in the construction and the assessment of the performance of property portfolios. Finally, the researcher makes recommendations that would enable the performance of property portfolios to be continually assessed and analyzed in a similar manner as is done for other long-term investments such as securities and equities. Data for this study was collected through interviews and administration of questionnaires to registered investment managers and to a randomly selected sample of in-house fund managers. The findings revealed that contrary to the common belief that many pension schemes had over invested in immovable property, this was not the case in practice. Over investment in immovable property was only experienced where the schemes were run as public corporations or parastatals and were therefore susceptible to political influence. The study also determined that investment managers had procedures which they followed when assessing alternative investments prior to portfolio construction. The managers also had procedures for assessing the performance of long-term investments although this was not usually applied to property. The study revealed that while there are procedures for the assessment of long term investments, these were not applied to property on a continuous basis like in securities or equities but only during acquisitions or disposals. The study established that property portfolio performance assessment could be outsourced to property management firms since they are in constant touch with the property market.

Auma(2013) studied the relationship between portfolio holding and financial performance of insurance companies and found out that there is a positive and strong relationship between portfolio and financial performance of the insurance companies. Abdalla (2012) examined the validity of modern portfolio theory: evidence from the Nairobi Securities Exchange. The study sought to form an optimal portfolio from the NSE 20 Share Index to investigate if an investor could apply MPT in order to achieve a higher return than investing in an index portfolio (market portfolio). Combining a strong portfolio that beat the market in the long run would be the ultimate goal for most investors. The theories that were used to analyze the problem and the empirical findings provide the essential concepts such as the standard deviation and returns of the portfolio. Further Sharpe ratio was used to achieve the optimal portfolio. The study made use of the descriptive research design. From a population of 20 companies from the NSE 20 share index, an optimal portfolio of eight companies from each sector of the index was constructed. Monthly returns were calculated for the two portfolios and Sharpe measure was also used to measure their performance. The benchmark that was used to compare the result from the portfolio is the NSE -20 Share Index. This Index reflected the market as a whole.

Kimali (2012) examined commercial bank's portfolio selection and the crowding out effect in Kenya. The crowding out effect was understood in terms of how the banking systems' portfolio selection crowds out the private sector. the expected returns variable was proxied by the ratio of interest rate on loans advanced to the interest rate on treasury bills while the perceived risk is proxied by non-performing loans (assuming that they are held by the private sector) whereas the available information on the alternative investment is proxied by the information available to the banking sector on the level of government deficit (and the governments' inability to finance it given the stand-off between the Kenya government and the Brettonwoods institutions). Loans



portfolio (risk) was expected to be negatively related to banking systems lending to private sector just as the information available level of the budget deficit financial and resources crowding out existed with the private sector completely Kaaria (2003) examined property portfolio construction and performance analysis in Kenya using a case study of registered pension schemes. The issues of concern were the factors considered during the construction of property portfolios and after portfolio construction, the presence or absence of procedures for the assessment of the performance of these portfolios in order to obtain a rational basis for portfolio revision. The study further looks into the challenges faced in the construction and the assessment of the performance of property portfolios. Finally, the researcher makes recommendations that would enable the performance of property portfolios to be continually assessed and analyzed in a similar manner as is done for other long-term investments such as securities and equities. Data for this study was collected through interviews and administration of questionnaires to registered investment managers and to a randomly selected sample of in-house fund managers. The findings revealed that contrary to the common belief that many pension schemes had over invested in immovable property, this was not the case in practice. Over investment in immovable property was only experienced where the schemes were run as public corporations or parastatals and were therefore susceptible to political influence. The study also determined that investment managers had procedures which they followed when assessing alternative investments prior to portfolio construction.

The managers also had procedures for assessing the performance of long-term investments although this was not usually applied to property. The study revealed that while there are procedures for the assessment of long term investments, these were not applied to property on a continuous basis like in securities or equities but only during acquisitions or disposals. The study

established that property portfolio performance assessment could be out-sourced to property management firms since they are in constant touch with the property market. The very existence of investment ability presumes there is differential information: The portfolio manager needs to know more about future security returns than the average investor. Mayers and Rice (1979) studied the question of whether a manager who knows more than “the market” as a whole would deliver a positive Jensen’s alpha.

They make the assumption that the manager with superior information has a small enough amount of capital that will have no effect on market prices. Thus, the information reflected in the market as a whole does not include the superior information. This is a strong assumption, perhaps more tenable at the time of their paper than today, given that institutional trading represents a larger fraction of trading volumes in recent years. Mayers and Rice provide assumptions under which the alpha of a manager with superior information is positive, as assessed by the investor without the information. They show that the manager, who better knows which states of the world are more likely, will invest more money in securities that pay off in the more likely states, while investing a smaller amount in the less likely states, thereby generating a higher average return than would be expected given the risk, as perceived by the uninformed investor. However, Mayer’s and Rice were not able to show that a positive alpha would be found under general assumptions.

Verrecchia (1980) showed that a positive alpha could be expected in the model of Mayers and Rice, if the fund manager maximized a utility function with constant relative or absolute risk aversion, but he also presented an example where a manager with a quadratic utility function would not deliver a positive alpha. A manager with quadratic utility will optimally chose a mean–variance efficient strategy, conditional on his information. Dybvig and Ross (1985)

assumed that the informed manager uses his information to form a mean–variance efficient portfolio (conditionally efficient), and showed that when his returns are.

## **2.5 Summary of the Literature Review.**

In summary, combining a strong portfolio that beat the market in the long run would be the ultimate goal for most investors Abdalla (2012). Manager's, who better knows which states of the world are more likely, will invest more money in securities that pay off in the more likely states, while investing a smaller amount in the less likely states, thereby generating a higher average return than would be expected given the risk, as perceived by the uninformed investor. Mwatuwano (2012) evaluated of the performance of Islamically screened portfolios at the Nairobi Stock Exchange. Kaaria (2003) examined property portfolio construction and performance analysis in kenya using a case study of registered pension schemes. Kagunga (2010) did a comparison of performance between unit trusts and a market portfolio of shares at Nairobi stock Exchange. Kimali (2012) examined commercial bank's portfolio selection and the crowding out effect in Kenya. Auma (2013) studied the relationship between portfolio holding and financial performance of insurance companies in Kenya with no concentration on the ones in Nairobi which is in the capital.

Thus the focus of this study is to find out the association that exists between portfolio holding and financial performance in Nairobi countys' insurance sector.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter describes the procedures used by the researcher to collect and analyze data collected from the field in the study. It covers the following areas: Research design, target population, sampling procedure, data collection instruments, data analysis tests of significance.

#### **3.2 Research Design**

This study adopted a descriptive research design. Descriptive study involves collection of data in order to test hypothesis or answering research questions concerning the status of the subject in the study (Mugenda, 2010). It was useful because the study focused on more than one insurance company. Research design refers to how data collection and analysis are structured in order to meet the research objectives through empirical evidence (Cooper & Schindler, 2006).

#### **3.3 Population of the Study**

The population comprised of 49 insurance companies that were in operations in Nairobi as at 31<sup>st</sup> December, 2014. These companies were key in the provision of insurance services in the capital. The study considered Nairobi because this is where most of the Insurance companies are concentrated and thus providing a population where a proportionate sample can be derived. The study covered a period of 5 years starting from 2010 to 2014.

#### **3.4 Data Collection**

The main source of data was secondary data from the Insurance Regulatory Authority, Association of Kenya Insurers, and insurance companies themselves. Information and data was

also collected from the official website of the insurance companies. The data collected was necessary for completion of the study.

### **3.5 Data Analysis**

The researcher conducted a multiple regression analysis in order to determine the relationship between portfolio holding and financial performance of insurance companies in Nairobi County.

#### **3.5.1 Analytical Model**

The researcher used the following multiple regression model:  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$  Where: Y = Overall profitability of the Insurance industry (Return on Assets)  $\beta_0$  = Constant X1= Investments in Stock (as a percentage to total assets) X2= Investments in government securities (as a percentage to total assets) X3= Investments in real estate (as a percentage to total assets) X4= Investments in Bank Deposits (as a percentage to total assets)  $\epsilon$ =Error Term. The data on above variables was collected from secondary data contained in Insurance Regulatory Authority and the Kenya Association of Insurers.

#### **3.5.2 Test of Significance**

To investigate and test the strength of the model and the overall effect on the variables on financial performance (ANOVA) test-Analysis of Variance was conducted.

## CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

### 4.1 Introduction

This section covers the analysis of data and discussing the results. The study focused on how portfolio holdings may affect the financial performance of insurance firms. The first step in analyzing the data was through descriptive measures. This was done using SPSS. The data from the spss analysis included mean, standard deviation, skewness and kurtosis. Secondary data was collected from the Insurance Regulatory Authority, Association of Kenya Insurers, and insurance companies themselves.

The researcher found it important to capture the performance of the portfolio holding at the reporting periods. Descriptive statistics, regression and inferential statistics were used to interpret the data.

### 4.2: Descriptive Statistics

**Table 4.1: Descriptive Statistic**

| Year | Stats   | ROA     | Investment<br>in stocks | Investment<br>in govt.<br>security | Investment<br>in real<br>estates | Investment<br>in banks |
|------|---------|---------|-------------------------|------------------------------------|----------------------------------|------------------------|
| 2010 | Mean    | 0.024   | 0.1144                  | 0.0254                             | 10.4032                          | 6380.0805              |
| 2010 | Median  | 0.0313  | 0.107                   | 0.0092                             | 10.7232                          | 118.8125               |
| 2010 | Std Dev | 0.0288  | 0.0574                  | 0.0418                             | 1.1949                           | 28042.4396             |
| 2010 | Max     | 0.0566  | 0.2533                  | 0.1491                             | 12.1009                          | 125518.7928            |
| 2010 | Min     | -0.0713 | 0                       | 0                                  | 8.1377                           | 0                      |
| 2011 | Mean    | 0.036   | 0.1179                  | 0.0105                             | 10.7579                          | 5284.1955              |
| 2011 | Median  | 0.0401  | 0.1096                  | 0.009                              | 10.9786                          | 115.2505               |
| 2011 | Std Dev | 0.0182  | 0.0571                  | 0.0178                             | 1.0742                           | 22544.2098             |
| 2011 | Max     | 0.0695  | 0.2168                  | 0.0585                             | 12.315                           | 98379.4514             |
| 2011 | Min     | 0.0049  | 0                       | -0.0235                            | 8.4246                           | 0                      |
| 2012 | Mean    | 3.6304  | 0.1087                  | 0.01                               | 10.8542                          | 103.4146               |
| 2012 | Median  | 3.6299  | 0.1004                  | 0.007                              | 11.1716                          | 115.9217               |
| 2012 | Std Dev | 1.8248  | 0.0485                  | 0.0098                             | 1.1257                           | 58.5894                |
| 2012 | Max     | 7.18    | 0.2024                  | 0.0393                             | 12.5514                          | 190.5677               |

|      |         |         |        |         |          |            |
|------|---------|---------|--------|---------|----------|------------|
| 2012 | Min     | 0.4462  | 0      | 0       | 8.5232   | 0.073      |
| 2013 | Mean    | 3.3235  | 0.1287 | 0.027   | 10.9965  | 103.1695   |
| 2013 | Median  | 3.5328  | 0.1219 | 0.0084  | 11.1148  | 112.2102   |
| 2013 | Std Dev | 2.7093  | 0.0672 | 0.0631  | 1.1259   | 57.1592 b  |
| 2013 | Max     | 7.4411  | 0.2707 | 0.283   | 12.6252  | 192.9485   |
| 2013 | Min     | -4.8276 | 0.0032 | -0.0011 | 8.7355   | 0.0891     |
| 2014 | Mean    | 0.236   | 0.2179 | 0.0125  | 10.5479  | 5133.105   |
| 2014 | Median  | 0.0401  | 0.2296 | 0.019   | 101.9786 | 105.2505   |
| 2014 | Std Dev | 0.0182  | 0.0571 | 0.0178  | 1.0742   | 22544.2098 |
| 2014 | Max     | 0.0695  | 0.2168 | 0.0585  | 12.315   | 98379.4514 |
| 2014 | Min     | 0.0032  | 0.0001 | 0.0235  | 8.4246   | 0          |

The table above represents descriptive statistics 43 insurance firms that had operated consistently for 5 year period with reference to the firms' investment in stock, investment in government security, investments in real estate and investment in banks for the five year period (2010-2014). Other statistics considered in describing the insurance firms' performance include median, maximum, minimum and standard deviation around the average.

Investment in stocks varied among the years with 2012 recording the highest average annual investment at 0.1287 (SD=0.067242) compared to 2011 that had the least at 10.83 (SD=0.049811) as shown on table 4.1 below. The year 2013 witnessed the highest range between the bank with the highest investment and the one with the lowest interest rate.

Investments in real estates increased progressively all through the five year period between 2010 and 2014 to be the highest reported among the four years. The year 2014 also reported the highest variation in profitability in the insurance industry while 2010 witnessed the highest reported investments in government securities from individual insurance firms with 2012 reporting the lowest at 0. Average company size for the five years among the insurance companies was between 10 and 11.

### 4.3 Regression Analysis

The study sought to establish the relationship between portfolio holdings and financial performance of insurance companies in Nairobi County. The factors investigated were: investments in stock, investment in government securities, investments in real estate and investments in banks. The regression model was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Whereby Y represent the profitability (ROA) in the insurance industry,  $X_1$  is investments in stock,  $X_2$  is investment in govt. security,  $X_3$  is investments in real estate and  $X_4$  is investments in banks.  $B_0$  is the model's constant, and  $\beta_1 - \beta_4$  are the regression coefficients while  $\varepsilon$  is the model's significance from f-significance results obtained from analysis of variance (ANOVA).

**Table 4.2: Model's Goodness of Fit Statistics**

| <b>R</b>          | <b>R Square</b> | <b>Adjusted R Square</b> | <b>Std. Error of the Estimate</b> | <b>Durbin-Watson</b> |
|-------------------|-----------------|--------------------------|-----------------------------------|----------------------|
| .895 <sup>a</sup> | .801            | .779                     | .19610                            | 1.874                |

a. Predictors: (Constant), investment in stocks, investment in government security, investments in real estate and investments in banks.

Table 4.2 shows that there is a good linear association between the dependent and independent variables used in the study. This is shown by a correlation (R) coefficient of 0.801. The determination coefficient as measured by the adjusted R-square presents a moderately strong relationship between dependent and independent variables given a value of 0.801. This depicts that the model accounts for 80.1% of the total observations while 19.9% remains unexplained by the regression model.



Durbin Watson test was used as one of the preliminary test for regression which to test whether there is any autocorrelation within the model's residuals. Given that the Durbin Watson value was close to 2 (1.874), there was no autocorrelation in the model's residuals.

**Table 4.3: Analysis of Variance (ANOVA)**

|   | <b>Model</b> | <b>Sum of Squares</b> | <b>df</b> | <b>Mean Square</b> | <b>F</b> | <b>Sig.</b>       |
|---|--------------|-----------------------|-----------|--------------------|----------|-------------------|
| 1 | Regression   | 1.389                 | 4         | .463               | 87.358   | .004 <sup>a</sup> |
|   | Residual     | 1.115                 | 210       | .005               |          |                   |
|   | Total        | 2.505                 | 214       |                    |          |                   |

a. Predictors: (Constant), investment in stocks, investment in government security, investments in real estate and investments in banks.

b. Dependent Variable: profitability of the insurance industry

The ANOVA statistics presented in Table 4.3 was used to present the regression model significance. An F-significance value of  $p = 0.004$  was established showing that there is a probability of 0.4% of the regression model presenting a false information. Thus, the model is significant.

**Table 4.4: Regression Coefficients**

| <b>Model</b>                      | <b>Unstandardized Coefficients</b> |                   | <b>Standardized Coefficients</b> | <b>t</b> | <b>Sig.</b> |
|-----------------------------------|------------------------------------|-------------------|----------------------------------|----------|-------------|
|                                   | <b>B</b>                           | <b>Std. Error</b> | <b>Beta</b>                      |          |             |
| (Constant)                        | 4.212                              | .433              |                                  | 1.336    | .104        |
| Investment in stock               | .996                               | .126              | -.967                            | -5.133   | .002        |
| Investment in government security | .621                               | .378              | .506                             | 4.451    | .027        |
| Investment in real estate         | .498                               | .078              | .282                             | 3.031    | .042        |
| Investments in banks              | .696                               | .075              | .241                             | 3.273    | .034        |

a. Dependent Variable: profitability in the insurance industry

The following regression result was obtained:

$$Y = 4.212 - 0.996X_1 + 0.621X_2 + 0.498X_3 + 0.696X_4 \quad P=0.004$$

From the model, when other factors (investment in stocks, investment in government security, investments in real estate and investments in banks) are at zero, the profitability of insurance firms will be 4.212. Holding other factors constant, a unit increase in investments in stock would lead to 0.996 ( $p=0.002$ ) in profitability of the insurance industry. Also noted is that holding other factors constant, a unit increase in investments in government securities would lead to a 0.621 ( $p=0.498$ ) increase in the profitability of the insurance industry. This concurs with Kathambi (2009) who established that security concerns to investment in government securities and performance of insurance firms.

Table 4.10 also shows that holding other factors constant, a unit increase in investment in real estates would lead to a 0.696 ( $p=0.032$ ) increase in profitability of the insurance industry. This is in line with Nsouli and Schaechter (2002) findings that insurance agents' profitability is highly sensitive to service disruptions. The findings, further, shows that unit increase in investments in banks would lead to a 0.096 increase in the profitability of the insurance industry. Similarly, Whitefield and Boehme (2007) opined that the level of investments in banks by insurance firms affects the profitability of the insurance industry. These results shows that when acting jointly, improvement in agency banking security, agency banking system and capacity of agent banks would improve profitability of the insurance industry.

#### **4.4 Interpretations of findings**

From the findings, it was established that Investment in stocks varied among the years with 2012 recording the highest average annual investment at 0.1287 (SD=0.067242) compared to 2011 that had the least at 10.83 (SD=0.049811) as shown on table 4.1 below. The year 2013 witnessed the highest range between the bank with the highest investment and the one with the lowest interest rate.

The study sought to establish the relationship between portfolio holdings and financial performance of insurance companies in Nairobi County. The determination coefficient as measured by the adjusted R-square presented a moderately strong relationship between dependent and independent variables given a value of 0.801. This depicts that the model accounts for 80.1% of the total observations while 19.9% remains unexplained by the regression model.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the summary of the data findings presented in the previous chapter, conclusions and recommendations there-to. The chapter is, thus, structured into summary of findings, conclusions, and recommendations of research findings and further research.

#### **5.2 Summary**

The purpose of the study was to establish the relationship between portfolio holding and financial performance of insurance companies in Nairobi County. The study established that the insurance industry has always invested heavily in the different sectors of the economy. The investment income has also increased tremendously to a high of Kshs. 23.93 billion in the financial year 2010. The role of the insurance industry is to provide economic protection from identified risks. The activities of insurance companies include underwriting insurance policies (including determining the acceptability of risks, the coverage terms, and the premium), billing and collecting premiums, and claims made under policies.

An assumption was developed that what the investor really cares about is the volatility of his or her total portfolio, and various components of the portfolio combine to determine that via diversification, depending on the correlations among the various components. If applied to a single fund in isolation.

The coefficient of determination as measured by the adjusted R-square presented a strong relationship between dependent and independent variables given a value of 0.801. This depicts that the model accounts for 80.1% of the total observations in profitability in the insurance industry while 19.9% remained unexplained by the regression model.

### **5.3 Conclusions**

The study established that portfolio holdings in insurance firms affected the profitability of the insurance industry as shown by the regression model which indicated by the adjusted R-square presented a strong relationship between dependent and independent variables given a value of 0.801. The model accounted for 80.1% of the total observations in profitability in the insurance industry.

### **5.4: Limitations**

This study helped to shed light on the relationship between portfolio holdings and financial performance of insurance in Nairobi County; however it was subject to a number of limitations. These mainly related to the setup of the study relative to the resources available within the research period. As such the constraints influenced the scale of the study but did not affect the conduct of the research once the design was arrived at.

Since the main purpose of this study is to identify the relationship between portfolio holding and financial performance of insurance companies in Nairobi County, Insurance Regulatory Authority, Association of Kenya Insurers, and insurance companies themselves considered some information sensitive and confidential and thus the researcher had to convince them that the purpose of information is for academic research thus carrying with her a data collection letter .

### **5.5 Recommendations**

Based on the findings and conclusions presented above, the study recommends that insurance firms should encourage investments in stocks, government securities, real estates and bank deposits. This will enhance profitability in the insurance industry. In addition, insurance firms

should educate and regulate their agents to ensure uniformity in service delivery so as to enhance customer confidence in agents.

The study recommends that customers should be enlightened on the operation of investments in order to enhance their profitability and performance. Additionally, the study recommended that insurance agent should be frequently trained on the operation process and policies to eradicate occurrence of error and mistake that are highly hindering penetration of insurance.

It is also recommended that, as roadmap to insurance development in Kenya, further studies can be done on customer perception of insurances so as to determine what affects insurance performance from the demand side. Moreover, studies can be done on the regulatory effect of insurance firms' performance in Kenya.

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## APPENDICES

### **Appendix I: List of Insurance Companies in Nairobi**

1. A P A Insurance Company Ltd
2. Africa Merchant Assurance Company Ltd
3. Apollo Life Assurance Company Ltd
4. British American Insurance Company Ltd
5. Cannon Assurance Ltd
6. Capex Life Assurance Company Ltd
7. CFC Life Assurance Company Ltd
8. Chartis Kenya Insurance Co. Ltd
9. CIC General Insurance Group Ltd
10. CIC Life Insurance Group Ltd
11. Concord Insurance Co. Ltd
12. Corporate Insurance Co. Ltd
13. Directline Assurance Company Ltd
14. Fidelity Shield Insurance Co. Ltd
15. First Assurance Co. Ltd
16. GA Insurance Ltd
17. Gateway Insurance Co. Ltd
18. Geminia Insurance Co. Ltd
19. ICEA Lion Assurance Company Limited Ltd (Formerly ICEA)
20. ICEA Lion General Insurance Company Ltd (Formerly Lion of Kenya)
21. Intra Africa Assurance Co. Ltd
22. Invesco Insurance Co. Ltd
23. Kenindia Assurance Co. Ltd
24. Kenya Orient Insurance Co. Ltd
25. Madison Insurance Co. Ltd
26. Mayfair Insurance Co. Ltd
27. Mercantile Insurance Co. Ltd

28. Metropolitan Life Assurance Company Ltd
29. Occidental Insurance Co. Ltd
30. Old Mutual Life Assurance Company Ltd
31. Pacis Insurance Co. Ltd
32. Pan Africa Life Assurance Company Limited
33. Phoenix East Africa Assurance Co. Ltd
34. Pioneer Assurance Company Limited
35. Real Insurance Co. Ltd
- 36 Resolution Insurance Company Limited
37. Shield Assurance Company Ltd
38. Takaful Insurance of Africa Ltd
39. Tausi Assurance Co. Ltd
40. The Heritage AII Insurance Company Ltd
41. The Jubilee Insurance Company of Kenya Ltd.
42. The Kenyan Alliance Insurance Company Ltd
43. The Monarch Insurance Company Ltd
44. Trident Insurance Co. Ltd
45. UAP Insurance Co. Ltd
46. UAP Life Assurance Limited
47. Xplico Insurance Co. Ltd
48. East Africa Reinsurance Company Limited
49. Continental Reinsurance Limited

