# EFFECT OF PORTFOLIO MIX ON PERFOMANCE OF PENSION FUNDS IN KENYA

BY

## JEDIDAH WANJIRU KIBE

### D61/81752/2015

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTERS OF BUSINESS ADMINISTRATION

SCHOOL OF BUSINESS

UNIVERSITY OF NAIROBI

NOVEMBER, 2018.

# DECLARATION

I hereby certify that this research project is my original work that has never been submitted or presented before for the award of degree/certificate in any other university or college.

Signature _____                    Date_____

**Name: Jedidah Wanjiru Kibe**

**Reg. No.: D61/81752/2015**

**Supervisor approval**

This research project has been submitted with my approval as the University Supervisor.

Signature _____                    Date_____

Mr. Patrick Kiragu

**Supervisor approval**

This research project has been submitted with my approval as the University Supervisor.

Signature _____                    Date_____

Mr. Martin Odipo

# DEDICATION

This research project is dedicated my loving husband Mr. John Kariuki for his all-round support, my children (The Jays fraternity) for their sacrifice, my parents and my friends especially Ms. Janet Karuga whom together we have supported each other towards the attainment of this degree.

Without them it would not be possible.

To all of you I say thank you and God bless

# ACKNOWLEDGEMENT

First and foremost I would like to thank the Lord God almighty through whose grace and mercy I have found strength and the desire to pursue this degree and for granting me health and wealth to accomplish this task.

I wish to sincerely thank my managers Mr. Patrick Kiragu and Mr. Martin Odipo for their continuous guidance and support, thoughtful insights, constructive critics and timely feedback that navigated me professionally towards the successful completion of this project.

I thank my MBA colleagues and the staff of the school of business, University of Nairobi who contributed to the achievement of this project. I thank all my family members for the contributions they have contributed towards the success.

Special acknowledgement to the Retirement Benefits Authority who provided data for analysis which formed a basis for this study.

# TABLE OF CONTENTS

# LIST OF TABLES

# LIST OF FIGURES

# ABBREVIATIONS/ACRONYMS

| | | |
|---|---|---|
| ANOVA | - | Analysis of Variance |
| APT | - | Arbitrage Pricing Theory |
| CAPM | - | Capital Asset Pricing Model |
| CIS | - | Collective Investment Scheme |
| CMA | - | Capital Markets Authority |
| DB | - | Defined Benefits |
| EMH | - | Efficient Market Theory |
| IPP | - | Individual Pension Schemes |
| IPS | - | Investment Policy Statement |
| MPT | - | Marginal Pricing Theory |
| NAV | - | Net Asset Value |
| OECD | - | Organization of Economic Cooperation and Development |
| RBA | - | Retirement Benefits Authority |
| RBA | - | Retirement benefit Authority |
| RBS | - | Risk Based Supervision |
| RBS | - | Risk Based supervision |
| ROE | - | Return on Equity |
| ROI | - | Return on Investment |
| SOFP | - | Statement of Comprehensive Position |
| UK | - | United Kingdom |

# ABSTRACT

The primary role of pension funds in the country Kenya is to ensure that staffs both in public and private corporations have a form of regular income or lump sum on retirement. Recently most of the pension funds prefer the pensions system that guarantees a regular income for life to the pensioners. This has been informed by the poor saving culture of Kenyans. Retirement Benefits Authority (RBA) regulates all pension funds in Kenya. Lately there has been a concern on the financial performance of pension funds in Kenya holding assets worth 609.8 billion as at June 2017. With the NSSF Act 2013 in place the portfolio is expected to grow into trillions by the year 2022. Where there are doubts on the financial performance of pension schemes, RBA recommends adoption of an pension through an insurance company or any other financial provider approved by the Insurance Regulatory Authority (IRA) and the Central Bank of Kenya. This study set out to establish the effect of portfolio mix on performance of pension funds in Kenya. The study was guided by the following objective; to determine the effect of portfolio mix on financial performance of pension funds in Kenya Using a sample of 33 pension schemes, the study established that portfolio size significantly affects the performance of pension funds in Kenya. Secondary data was collected and made use of in the research. The majority recommendations proposed to address the level of financial management knowledge to the trustees of the various pension fund boards, lobbying for the government to reduce the tax burden to the pensioners and increased member education.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the Study

Pension schemes assume a key job in the economy through the activation and conveyance of enduring long term funds to help speculation, (Drobetz 2014). Recent changes in many African countries have made private benefits schemes, which are quickly amassing assets under administration. A retirement benefits is a funds into which a sum of money is incorporated in the midst of a laborer's business years, and from which portions are pulled in to help the person's retirement from work as irregular portions. Benefit scheme is part of the employment benefit that an employer can offer to its employee, this serves besides the financial security it offers after retirement it is a form of postponed pay valued by the employees and hence this serves as a benefit which a company can ride on to attract and keep competent employees. Pension funds not only provide benefits to individuals but their activities significantly impact on the larger economy, for instance, pension funds are likely to supplement and encourage development of capital markets through their harmonizing role with other financial institutions (Walker & Iglesias, 2010).

A number of investment and models can be applied to the concept of portfolio mix and performance of pension funds. This study is based on three investment; capital asset pricing model (CAPM), Arbitrage Pricing theory, modern portfolio theory and black litterman theory. The model CAPM explains the connection between risk and expected return. Arbitrage pricing theory hold that normal return of a budgetary asset can be displayed as a direct capacity of different large scale financial elements. If balance values offer no trade openings over static course of action of the favorable circumstances, by then the anticipated benefits for the returns are have a linear relationship to the loadings of the factors. Modern portfolio speculation bears witness to that it is possible to create and viable edges of perfect portfolios, offering the most outrageous possible expected return for a given component of risk, (Reilly & Brown, 2015).

Due to the growth of pension funds, there is need for methodologically sound principles of asset allocation (Currenticki 2015). All investments are subject to certain type of risk, but some of the investments carry a much higher degree of risk and

eventually higher return and those that carry less degree of risk have less return and therefore investors willing to get higher return must be ready to absorb high risks and vice versa. Restrictions are therefore put in place to ensure that fund managers invest in particular types of assets to limit the dispersion of outcomes. As a result, the trustees develop investments mandate, which guides the fund manager in the allocation of assets. The investments mandate therefore helps the Board of trustees of the pension fund to effectively supervise, monitor and evaluate the performance of the schemes investments assets (Blake, Lehmann & Timmermann, 2010).

Pension schemes in Kenya comprise of the civil service scheme, occupational schemes, and the individual pension schemes. Pension schemes in Kenya are intentional and are set up under a trust deed. They are directed by Retirement Benefits Authority. There are no base necessities for the dimensions of commitment by bosses and staff. Enactment confinements are in connection to least retirement ages, vesting, versatility, conservation, and availability of benefit. Singular individual pension designs contain schemes set up by institutional suppliers to target singular individuals not really attached to a business or any formal setting. The lion's share of these schemes are offered by insurance agencies

## 1.1.1 Portfolio Mix

Reilly & Brown (2011) define portfolio mix as the combination of different asset investments for a speculator's thriving among various countries and asset classes for motivations behind ideal investments. A benefits class is contained securities that have comparable qualities, credited and risk/return relationship. A portfolio is an association of cash related assets, for instance, stocks, securities and cash reciprocals, and their benefit accomplices, including normal, exchange traded and close assets. Portfolios are head by investors and additionally regulated by asset managers as chosen by the trustees of the scheme. Portfolio mix/asset dissemination is the technique of isolating the endeavor portfolio transversely over various asset classes like stocks, securities and other financial as well as capital market securities. Portfoilio mix is highly regarded as an effective and organized technique in diversification of investments (Brinson, Hood & Beebower, 2016).

2

The two arrangements of asset allocation procedures are to be specific: key and strategic asset allotment. Strategic asset allocation alludes to how portfolio finances will be isolated given the portfolio administrator's long haul gauges of expected returns, difference and covariance, (Sharpe, 2016). It involves the asset managers deciding on the asset classes as well as the specific securities with superior performance to invest in. Tactical asset allocation on the other hand alludes to how the assets are to be separated at a specific period given the financial indicators of momentary measures. The decision figures out what deviations dependent on Modern market valuations ought to be produced using the strategic asset portion projections (Lofthouse, 2011). Reilly & Brown (2011) further explain that in this strategy, a fund manager tries to create meaningful returns full of value addition exclusively through allocation decisions. In particular, rather than attempting to pick prevalent individual securities, strategic asset portion managers alter their asset class exposures dependent on current changes in the overall valuations of those classes (Lofthouse, 2011). Stux (2015) observes that the procedure of asset allocation takes into consideration the scheme of an effective set and this enables the investments director to put assets into those securities that frame the ideal portfolio. Asset allotment decisions decide generally both the profits and the unsteadiness of the portfolio, differentiating by joining distinctive asset classes in a portfolio decreases by and large portfolio unpredictability (Reilly & Brown, 2011).

### 1.1.2 Pension Fund Performance

Pension fund performance is measured using its aggregate return, which is the entirety of the adjustment in reserve's net assets value (NAV), its profits and its capital increases dispersals over a given period. Hinz, Rudolph, Antolin & Yermo (2010) in their book observed that since 1980's the structure of schedules to produce retirements income has steadily moved from Defined Benefit (DB) scheme to different arrangements of course of action in which pension is upheld up by assets, either in individual records or in aggregate schemes. Principally the administrations looking to decrease the financial effect of maturing populations and to differentiate the wellsprings of retirement pay have motivated this change. They further suggest that one of the key results is that many pensions systems are now in the process of becoming asset backed. This has increasingly linked retirement incomes of the

uncertainties of investments markets to determine the level of benefits that they will ultimately receive.

The purpose of measuring portfolio performance is to determine whether the fund managers are adding value and whether the investment strategy adopted is increasing or reducing the value of the funds. The rationale for calculating the performance of a portfolio is to be able to establish the value added either knowingly or unknowingly by the portfolio managers during their allocation decisions. The success of portfolio performance is achieved when portfolio managers add value through prudent asset allocation techniques. Under the assumptions of Efficient Market Theory (EMH), it is difficult for managers to include value, so it ought not be astounding to find that the diverse benefits schemes have had performance like their benchmarks (Walker and Iglesian, 2010). They likewise show that in circumstances where budgetary markets don't display solid frame EMH qualities, finance managers can include value (Walker & Iglesias, 2010).

Performance of the pension funds therefore can be measured by considering the degree to which the fund manager has been able to deliver investment's return's that are as set by the investment committees and in comparison with the industry at large. Performance of the funds is dependent with the kind of investment backing up the assets of the fund as well as the strategy taken up by the fund managers. Risky investments have higher returns and hence where the investors are risk taker, the fund shall definitely record higher returns as compared with the fund whose investors are risk averse (Brinson, Hood & Beebower, 2016).

### 1.1.3 Portfolio Mix and Performance Pension Funds

The asset allocation method alludes to the decision procedure of characterizing the measure of assets that ought to be distributed to each monetary asset in the Modern open door set. It is the financial manager's target to acquire the most astounding risk balanced return as could be allowed. Brinson, Singer and Beebower (2011) demonstrated that the benefit allocation decision is by a long shot the most predominant factor of portfolio performance as it explains over 91% of the variety in asset returns. Distinctive securities perform diversely anytime, subsequently with an alternate mix of benefit classes the whole portfolio don't endure the effect of a decay

of any single security. This implies that when the bonds implied yield increases the stocks market performance reduces and vice versa and thus recording a sort of stability in performance, (Brinson, Singer & Beebower, 2011).

The portfolio mix decision oversees the allocation of assets among open and private, and fixed income and equity. Strategic allocation of benefit is the most critical factor in assurance of the acknowledged aggregate rate of return. Portfolio mix in benefits designs is the most imperative decision made by the fund managers in their objective of providing adequate retirement incomes which definitely indicates whether based on the returns whether the fund is growing or not. The strategy adopted positively directly affects all characterized commitment of individuals. It is therefore the investor's objective to obtain the highest risk adjusted return as possible (Collie, Sylvanus & Thomas, 2011)

Ibbotson & Kascheme (2012) indicated that the asset allocation decision is by a wide margin the most predominant factor of portfolio performance as it determines over 91% of the variations in assets returns. Global expansion gives a genuine case of the impacts of broadening over the asset classes. A portfolio that has put half in local huge - top stocks and half in worldwide extensive – top stocks, expecting that the interests in each market are adequately broadened to dispose of explicit risk. A few speculators may be chose certain explicit risks with the desire for acknowledging higher returns. Nonetheless, this is in contrast to financial theory and such financial risk takers are thusly considered nonsensical. Hence, intentional exposure to explicit risk is superfluous and is basically gambling except if one has inside data, which again is infringement of the securities law.

## 1.1.4 Pension Industry in Kenya

The Retirement Benefit Authority (RBA) regulates the pension fund industry. An Act of Parliament and specific all the Retirement Benefit Act established RBA. According to RBA, the industry is categorized into four broad schemes namely, Civil Service Pension Scheme, National Social security fund, Occupational Retirement Schemes and Individual retirement schemes. The Civil Service Pension Scheme and National Social security fund are as results of the Acts of Parliament with their members being all civil servants, teachers and formal sector workers in companies respectively

whereas. The latter are governed by the Trust Deeds with their members being formal sector workers in companies that have schemes and individual in formal and informal sectors who join voluntarily respectively (The Retirement Benefits Act Chapter 197 of the Laws of Kenya).

Benefits fund appointed firms recognized by RBA are responsible for dealing with and managing the schemes. RBA stipulates that a scheme must name an asset manager. RBA provides investment guidelines to fund managers in which the asset classes and the maximum percentage investment in each class is provided to avoid exposure of the pensioners funds. The rules therefore guide risk profiles of various asset classes as invested in by pension fund management firms. Recently the supervision of the pension fund has shifted from compliance based to Risk Based supervision (RBS). RBA therefore do not specify the assets in which a scheme should invest in rather provide guidelines on the asset classes. The pension scheme has the discretion to determine and select the assets they consider most suitable to maximize the returns to the funds by selecting and adopting a well-diversified portfolio (Puttonen, 2015)

## 1.2 Research Problem

Pension funds have enlisted a critical development in many countries over the globe and they are relied upon to proceed with further development. Great performance rankings for any pension conspire animate deference as well as support impersonation and rivalry that will in general disintegrate a good position. Benefits schemes try to imitate the performance achievements of others by copying their structures and practices (Sutton, 1997). The performance of pension schemes to a great extent relies upon various factors, for example, the period of recipients, salary from commitments and the dimension of monetary direction nearby different variables.

Pension schemes have a responsibility to ensure return on investments. Performance of pension funds has been critical to the sustainability of the schemes to enable them meet their obligation to members. A key aspect of pension funds in Kenya has been the how the fund's assets are managed in order to achieve the desired returns. There are 33 registered pension schemes in Kenya each with its own independent board of trustee. However return on invested capital greatly varies among these schemes.

Performance of the pension funds in Kenya has largely mirrored that of the Nairobi Securities Exchange which has been on the decline, with pension results for 2016 showing a decline to average pension return of 15.5%. Pension fund have exhibited varied results, with different factors impacting on the performance of pension fund (RBA, 2015).

Stux (2015), separates benefits schemes portfolio the executives by utilizing two stages. Initial, an pension finance needs to choose which wide asset classes to put assets into. Regularly, the benefit classes incorporate settled pay, values, land, currency showcase instruments, funding and private speculations. This progression is called strategic asset portion and it is the most critical piece of an pension funds's benefit the board, as the strategic asset allocation vigorously influences the performance of an pension finance. The second step incorporates the genuine usage of the picked strategic asset allocation by picking inside or outer asset managers and putting practically speaking the specific speculation procedures and security determination process. This progression is additionally strategic, however has less effect on benefits funds's general performance, (World Bank, 2012)

There are studies that have tended to different parts of pension funds. For example Meng and Pfau (2010) did an examination on the job of pension assets in capital market advancement at the stock and security showcase level. Tests were taken from various countries. The investigation set up that benefits schemes budgetary assets impactsly affect securities exchange profundity and liquidity and in addition private security showcase profundity. Be that as it may, the effects are critical for countries with high money related improvement. Pension schemes don't affect capital market advancement in the countries with a low dimension of money related improvement.

Another investigation carried out by Crose, Kaminker and Stewart (2011) on the job of pension assets in financing green development activities. The examination set up that pension funds" asset allocation to green investments stays low. The investigation affirmed that the fundamental reason for the low investments is partly because of an absence of ecological approach strategy, however different boundaries to speculation incorporate an absence of proper investments vehicles and market liquidity, scale issues, administrative disincentives and absence of learning, track record and ability among benefits assets about these speculations and their related risks.

Njuguna (2011) did an investigation on the determinants of pension finance corporate administration in Kenya. The examination built up that pension administration is impacted by benefits directions, authority, and participation age. The pension scheme structure and number of individuals don't have huge effect on how the benefits designs are represented. Ngetich (2012) completed an investigation on determinants of the development of individual benefits conspires in Kenya. The examination set up that that finance administration apply a critical relationship on the development of the benefits schemes. This implies pension support administration lead to enhanced development of the individual benefits schemes. Shikhule et al. (2012) likewise directed an investigation on determinants of pension schemes administration viability in Kenya. It was uncovered that learning of the trustee's agreements by the individuals, data stream to individuals and cooperation of individuals in the administration of benefits schemes are the principle factors that impact viability of administration of pension schemes

A study carried out by Nguthu, (2009) shows that the variety returns after some time for pension schemes disclosed up to 62.4% by speculation strategy embraced by the trustees of the scheme. Kagunda, (2011) demonstrated that asset allocation can clarify a lot of the distinction in returns crosswise over time and subsequently an essential determinant of return performance of unit confides in Kenya. Omondi, (2013) completed an investigation to set up the connection between asset allocation and performance of pension assets in Kenya. He found that the asset allocation explains 28% of the inconstancy of assets returns.

Pension schemes are a novel sort of associations since they hold long haul liabilities which have a place with recipients. Notwithstanding there are studies carried out locally on; 1) performance of associations and pension funds; 2) portfolio allotment performance of benefits assets in Kenya. However there are no investigations that have endeavored to set up the impact of portfolio mix on performance of pension funds. In order to bridge this gap by addressing the research question: what is the effect of portfolio mix on performance of the pension funds in Kenya?

## 1.3 Research Objective

The objective is to determine the effect of portfolio mix on financial performance of pension funds in Kenya.

## 1.4 Value of the study

The study will be of great importance to different stakeholders in the pension industry. This will help the scheme members to identify the best performing funds in Kenya. The study will serve as an exposure of how most pension managers have declared high returns over the years compared to others who declares low returns. The member therefore has an option of transferring the funds to an administrator of his decision. Most pension funds managers have in the past taken asset of members who lack the knowledge on how pension funds work and hence declare minimum returns. The study therefore seeks to guide pensioners on their entitled benefits and how this can maximize their benefits of funds and hence enjoy better payoffs.

The study helps the Board of Trustees of Pension schemes to know the extent to which regulations on various asset classes have an effect or influence the level of performance of their funds. Its therefore indicates how investments or how different investments decisions whether strategic or tactical affects the performance of the pension fund. They can also seek flexibility from Authority on deciding where and how to invest the funds. The study guides on the importance of having qualified like in the field of investments, lawyer who will assist the members in making technical or strategic decisions concerning the Scheme.

The findings of this study provide the RBA with information for the definition of better approaches and decisions that are pertinent in directing investments of pension assets in different asset classes in Kenya and in addition to educate the regulator (RBA) on the need of reexamining the benefit allocation limits. The study therefore will help RBA to engage with players in the industry in finding out better ways in which they can amend the regulations to suite or improve on performance of the funds and the economy as a whole.

The RBA and the government in general would be interested to know whether the regulations they have put in place have achieved the desired objectives. This is important given that pension schemes and retirement benefits schemes are important for developing countries like Kenya not exclusively to anchor individuals' employments after retirement, yet additionally in light of the fact that retirement schemes give a road to assembling reserve funds for long haul speculations. RBA are therefore in a position to have an overview of how various schemes performance vary based on the different investments methodology.

Pension schemes will also benefit from this study in that they get to know or adopt strategies on other industry players based on how others invest theirs funds to maximize on returns. The detailed analysis shall indicate how the highest returns declared funds deploy their funds comparing the same with the pension fund that declared the lowest. They will be in apposition to compare and contrast the portfolio mix of different funs and even analyze the risk of various assets undertaken by different fund managers, hence know how they can optimally invest to record high returns.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1 Introduction

The chapter seeks to discuss an overview of relevant literature, investment and studies that have been carried out with intention of providing beneficial information in the area of effects of portfolio mix on performance of the pension funds. It seeks to critically analyze a literary information through review, characterization and correlation of earlier research studies, academic reports and journal articles.

## 2.2 Theoretical Review

There are various investment that explain the financial performance of pension funds or similar organizations that invest in a portfolio of assets. This section therefore seeks to explain the research based on the following investment, Capital Asset Pricing Model, Arbitrage Pricing Theory, Modern Portfolio Theory and Black Litterman Model Theory

## 2.2.1 Capital Asset Pricing Model (CAPM)

Sharpe (1964) and Lintner (1965) developed CAPM by the equivalent was refined by Black (1972) which is a rearranged expansion of Markowitz (1952) theory of connection among risk and return. This model depicts the connection among risk and expected return and that is utilized in the estimating of riskous securities. This model in this way helps in deciding hypothetically fitting required rate of return of a benefit, and aides in settling on decisions of including of benefit in an all around differentiated portfolio. The general thought behind CAPM is that speculators should be remunerated in the two different ways, by time value which is spoken to by the risk free rate and repaid the financial managers for putting cash in any investments over some undefined time frame and risk - It demonstrates the risk and processes the measure of pay the financial manager requirements for going out on a limb. This includes the Risk (beta) which thinks about the arrival of the asset for the market over some stretch of time and the market premium (Capital Markets Institutions 2017). This model is strategic to this examination in building up the connection between portfolio mix and performance of benefits schemes.

## 2.2.2 Arbitrage Pricing Theory (APT)

Ross (1976a, 1976b) developed Arbitrage Pricing Theory (APT) theory of asset valuing that holds that the normal return of a budgetary asset can be demonstrated as a straight capacity of different large scale financial components. It is a one period display in which each financial manager trusts that the stochastic properties of profits of capital assets are reliable with a factor structure. Ross contends that if balance costs offer no exchange openings over static scheme of the benefit, at that point the normal profits for the benefits are roughly straightly identified with the factor loadings.

APT is a substitute of CAPM in that both state a direct connection between assets expected returns and their covariance with other irregular factors. Like CAPM APT contends that interest rates depend on the efficient risk introduction of the security, instead of the aggregate risk. Dissimilar to CAPM, it doesn't require all speculators act alike, nor does it guarantee that other capital – weighted market portfolio meaning it is the main unsafe asset that will be held. This theory will control in straight projection of expected come back from every individual interests in the portfolio.

## 2.2.3 Modern Portfolio Theory

Harry Markowitz (1952), made Modern Portfolio Theory (MPT) ,it is an endeavor speculation subject to the likelihood that risk – reluctant cash related experts can build portfolios to improve or develop expected advantage based for a given segment of market shot, underscoring that probability is a trademark bit of higher reward.

MPT is sometimes called portfolio Theory or Portfolio of the managers. MPT prescribes that it is conceivable to amass and helpful wild of impeccable portfolios, offering the most ideal expected return for a given segment of hazard. It proposes that it isn't satisfactory to take a gander at the run of the mill hazard and return of one express stock. By setting resources into in excess of one stock, a speculator can get the prizes of expansion, otherwise called not gambling everything on one undertaking. Accordingly Harry Markowitz (1952), built up a model which considered the collaborations between various investments portfolios, and the relationship between them, to advance the proportion among risk and return consequently showing that a mix of a few arrangements of benefits may diminish chance, gave that the financial manager picks kinds of benefit which move as freely of one another as would be

prudent. This theory helps in expansion and spreading of risks in various asset classes to defend speculations.

### 2.2.4 Black Litterman Theory

Fischer Black and Robert Letterman (1990) developed the black Litterman model. This model combines ideas from the CAPM and Modern portfolio Theory to give an apparatus to financial managers to figure the ideal portfolio weights under explicit parameters. Preceding the model, speculators used to include expected returns of the benefit into Markowitz model to produce portfolio weights. Anyway the mind boggling mode regularly returned weights that did not bode well to general financial managers, particularly when the speculators had assessments about how the market or certain benefits will perform later on.

Litterman show is then developed to give unbiased weights to speculators that can be balanced by their assumptions about the market. Prior to utilizing the model, one ought to comprehend the two key presumptions behind the, demonstrate, First the model accept that all benefits returns pursue a similar likelihood dispersion (generally typical appropriation is chosen, however speculators can pick any dissemination that appears to be fit). Second the, variance of the earlier restrictive dissemination about the genuine methods for the benefits and financial manager sees are obscure. The financial manager subsequently should acquire the inferred market returns got from the CAPM model to have the capacity to utilize the Litterman demonstrate. On the off chance that the financial manager concurs with the inferred yield, they can utilize the nonpartisan weights given by the Litterman model to build up their ideal portfolio. Be that as it may, this can't help contradicting the inferred market returns given by CAPM. They ought to use the Black Litterman show, which modifies the impartial weights as per speculator's perspectives.

There are two arrangements of market sees outright and relative. In total financial managers, determine the rate refunds that they trust a specific assets will give while in relative perspectives, speculators contrast one asset with another in term of which asset will yield higher. Inside each view, the financial managers likewise need to indicate a certainty level demonstrating how they feel about their perspectives (Kagunda, 2011). The significance of this theory is on the hidden suspicion that financial managers in benefits schemes want greatest return for their speculation.

## 2.3 Determinants of Performance of Pension Funds

Performance of a pension fund may be determined by a combination of asset classes in the portfolio. Moreover, high costs of pension investment affect the beneficiaries' wealth significantly because they reduce the net rates. However there are some other factors that determines performance mix which includes:

### 2.3.1 Portfolio Mix

Portfolio mix is an important aspect in the management and investment of pension funds in the capital market. It promotes diversification of risks. According to Dasgupta et al, (2011) argue that portfolio mix improves the cash outlay of pension funds thus allowing pension funds to invest with positive return on investments. Markowitz (2009) indicated that the weighing of individual securities inside the portfolio is basic. The weight that a portfolio manager apportions to a given security in a portfolio makes responsibility to discounts that is correspondingly as basic as the security assurance and investment timing choices. The fund manager found that schemes directors would in general hold reliable in building and keeping up equivalent weights in the board of retirement pension schemes.

Bigger schemes enjoy economies of scale they can spread risks across a wider membership base allowing them to give members a bigger return. It is the major concern of all financial institutions to minimize cases of nonperforming investments. This will reduce cases of such investments affecting financial performance. A lower rate of nonperforming investments to total investments shows that the scheme portfolio is performing well. The manner at which pension managers award finances among investment channels matters most on total performance, (Stamati, 2013).

### 2.3.2 Age of the Pensioners

According to Kipkoech (2012), the age of a supporter of a benefits finance is exceptionally critical in deciding its performance. On the off chance that an pension schemes has lion's share youthful donors who have not accomplished retirement age, it infers that they will have more monetary assets that can be directed into speculation exercises along these lines acquiring more pay. An extensive segment of the contributors are old and almost attaining retirement, the funds needs to spend more

assets for asset retirement schemes for the suppliers, and this implies that there will be less funds open for investments.

Pension can be traced back to the past times whereby the legislature had presented the social welfare groupings. However, there has been great transformation and major growth recorded. The main reason why the pension exists is to have security to retired people. It is important to note that people save for retirement when they are active in employment whether formal or informal. Hence, the more the people we have in employment during the more the savings and increase of funds. If the economy is in the downturn and there are lays off or companies are not hiring, then there are much withdrawal than the contribution, which reduces the investable fund hence the portfolio returns. It is clear that pension schemes are part of social schemes that are designed to protect people from financial impairment once they retire from active retirement, (Drobetz & Kohler, 2012).

### 2.3.3 Access to Capital

The ration of Modern assets to Modern liabilities of pension schemes tells us the level of access to capital by the pensioners. A ratio greater than one shows the scheme has enough Modern assets to meet Modern liabilities hence access to capital. A ratio that is too high may indicate that the scheme is not efficiently using its Modern assets or short-term financing. However, major challenge in access cash for liquidity purposes is due to emerging markets. Individuals with low access to capitals are probably going to confront low amassed assets at retirement age, and in this manner are probably going to have low retirement livelihoods, (Njeru, 2014).

The level of access to capital decides the level of commitment. Density of commitments has influenced the pension benefits in countries with vast informal divisions. People with density of commitment are probably going to confront low gathered assets at retirement age and along these lines are probably going to have low retirement pay. The withdrawal age likewise a critical factor that influences the performance of pension funds in light of the fact that the amassing time frame is shorter where people are permitted to resign before, people are probably going to get bring down retirement salary. Thus, governments are raising the official retirement age or have acquainted motivations with postpone retirement. The limit of financed

singular record scheme to convey retirement salary will be additionally tested in this regard as future keeps on expanding in for all intents and purposes all countries, (Mutuku, 2011)

### 2.3.4 Leverage

Commitment/Equity Ratio is a commitment extent used to check an association's fiscal utilize, controlled by detaching an association's total liabilities by its speculators' value. This shows how much commitment Pension designs are using to schemes its benefit using the proportion of noteworthy worth addressed in financial managers' value. Concerning systems for upkeeps, there is reliably a dispute in choosing the extent or gaining to be held, (Lungu, 2011)

### 2.3.5 Retained Earnings

The retained earnings are simple net earnings not paid as dividends. Retained earnings to total asset ratio have to be 1:1 for good performance. The higher the retained earnings to asset ratio the less reliant the scheme is of other common types of debt to equity financing, (Antolín, Payet, Whitehouse & Yermo, 2011).

### 2.5 Empirical Review

Brinson, Hood & Beebower, (2016) and Brinson, Singer & Beebower (2011) in their investigation of United States corporate pension schemes reasoned that the speculation command clarified 93.6% of the aggregate variety of the real returns of the assets. They did an investigation of 91 retirement asset assets for over a multi year time span and discovered that that the assets had an optional command with the investments director. The asset classes considered were the stock values, bond portfolios and money identical portfolios. The assets were ruined to the determination and timing reasons. Relapse of the scheme returns against the real returns was done at the dimension of connection solidified.

Brinson, Singer & Beebower, (2011) indicated 91.5 % of the portfolio returns were inferable only to strategic asset allotment. Chirchir (2017) likewise expressed that benefit allocation, as opposed to stock picking or market timing, is by a wide margin the most essential factor that decides the profits that a portfolio would produce over a

given period. Ibbotson & Kascheme (2012) in their investigation of United States retirement finances reasoned that the primary determinant of speculations performance of a retirement benefits finance is the asset portion as opposed to the stock determination.

Blake, Lehmann and Timmermann (2010) inspected the benefit portion decisions of 364 people UK organization pension schemes utilizing information for the years 1986 to 1994. The criteria they utilized in recognizing the example was each funds ought to have been overseen by the equivalent overseen by a similar director over this specific period, and that this administrator ought to likewise have in charge of the asset allocation of the reserve over this continuous period, at the end of the day there were balance orders. Utilizing their example Blake et al (2010) discovered little variety in the performance of these schemes, or in the portfolio allocation decisions that they set aside a few minutes. What's more, they found that most by far of time variety in returns was because of strategic asset allocation decisions, next to no of the variety was because of stock segment. The end was that the test regularities that they watched were in all probability due to the lawful and financial conditions under which these directors worked.

Utilizing the quarterly profits for an a lot bigger example (2,175) of isolated UK pension schemes spreading over the period from 1983 to 1997, Surz (2014) explore the performance of UK value portfolios overseen by speculation managers, as opposed to the performance of the reasonable portfolios examined by Blake et al (2010). Surz (2014) ends were steady with those of Blake et al. The assortment of systems used to evaluate the nature of funds performance all recommended an extremely restricted cross-sectional scattering in returns, which proposed that the chiefs were all "storage room trackers". They likewise presume that in general there were negative comes back to both selectivity and to showcase timing.

Omondi, (2013) observed that risk and return are the key considerations in investment practices of Pension Fund Managers in Kenya. Modern income is not their fund objective; however, the most predominant objective will be capital preservation. Pension schemes also differ from collective investment schemes as they have a minimum funding requirement and they are established to invest funds to meet pension liabilities. That is they are invested with the expectation that they will be

sufficient to pay pension entitlements when these are due. Kagunda (2011) observed that factors identified in finance literature are considered in investment decision by institutional investors at the NSE. However, the relevance of the factors is different as insurance companies and fund managers consider company factors more important while Retirement Benefits Schemes consider industry factors more relevant.

Nguthu (2009) in his research to establish how much asset allocation scheme added to the profits level retirement asset support in Kenya found that the variety in returns after some time for pension schemes is disclosed up to 62.4% by investments strategy embraced by the trustees of the scheme. Different factors, for example, securities decision, timing of speculations and managers' determination clarified the rest of. The examination was done on 40 isolated word related schemes in Kenya and returns investigated utilizing relapse examination and spellbinding insights.

In a study carried out on "The relationship between asset allocation and financial performance of pension funds" (Omondi, 2013), the researchers came up with the following findings: Asset allotment explains 28% of the variance of funds returns. The investigation likewise settled that of all the asset classes allowed by the Retirement Benefits Authority (RBA), interests in values could really compare to interests in settled fundss in deciding the general performance of the pension funds.

## 2.4 Summary of Literature Review

Most studies tend to conclude that on average asset allocation explains the extent of the performance of the funds. Local Study by Nguthu (2009) clarified that benefits allocation clarified around 62 % of the profits of funds organization assets in Kenya. Another investigation by Omondi (2013) explains the connection between asset allocation and the monetary performance of pension schemes. In any case, the extent of the investigation did exclude the degree to which the portfolio mix limits added to the general performance of the assets. This is important as it will serve as a guide on how the managers of pension funds are realizing better returns than other. It is also guide the pensioner on which is the best managers to use based on the average annual declared returns and the asset base of the company.

There has not been an investigation done on benefits assets in Kenya to decide the degree to which the impact of portfolio mix has on the performance or return declaration by the pension managers. This hence justifies the need for this study.

# CHAPTER THREE
# RESEARCH METHODOLOGY

## 3.1 Introduction

The section traces the philosophy, methods and modalities that were utilized in data collection. It also covers and explore structure, assurance and distinguishing proof of the population, sample estimate, design of the research, data analysis, the instruments of data collection, legitimacy and dependability of information gathered. As indicated by Kothari (2004), research deign is an approach to deliberately tackle the exploration issue.

## 3.2 Research Design

The research design selected was a descriptive survey. Satchel & Scowcroft (2010) explains that a research design portrays as accurate profile of persons, events or situations, while Mugenda & Mugenda (1999) states that surveys are conducted to establish the nature of the existing condition or situation. This research design provided a means to gather, analyze and interpret the relationship between asset allocation and fund performance of pension schemes.

## 3.3 Population

Target population of this study comprised of 33 Individual Retirement benefits Schemes registered with RBA Kenya.

## 3.4 Sample Design

The research examined the Statement of Comprehensive Position (SOFP) of all the 33 Individual Retirement benefits Schemes. For sampling purposes, the research used schemes that were in existence for at least 10 years for the purposes of accessing the data from the RBA database. Prior to 2005, it was not statutory for pension funds to submit information on fund returns to RBA and as such, that data cannot be obtained. As a result the scheme data that was used in the study are fund returns from 2007 to date and was obtained from RBA.

## 3.5 Data Collection

Secondary data was collected and used for the study. Financial reports and analytical data were collected, reviewed for consistency and analyzed. This data was obtained from the 33 Individual Retirement benefits Schemes registered with RBA from their last 10 years as per the RBA database. Financial performance records were obtained from the schemes/trustees offices.

## 3.6 Data Analysis

Information gathered for every one of the enrolled benefits schemes was quantitative in nature. The information was expressed as beneath. To decide how much asset class limits adds to the general budgetary performance of the funds, a various relapse show was utilized to examine the information. A comparable model was utilized by both Nguthu (2009) and Omondi (2013). The information was dissected utilizing measurable bundle for sociologies (SPSS). Proportions were numerically determined and classified amid investigation.

### 3.6.1 Analytical Model
**Regression Model:**

The following linear multiple regression model was used for data analysis:

$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$

Y = Natural log of average return on investment

ROI= (Modern Fund value-Previous Fund Value)/previous Fund Value.

$\alpha$ - is the regression constant.

$\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$ and $\beta_5$ – are regression coefficients also called predictor variables

$X_1$ - Portfolio size

$X_2$ – Average age of pensioners

$X_3$ – Access to capital,

$X_4$ - Leverage,

$X_5$ – Retained earnings

ε – Error term.

Table 3.1: Operationalization of Variables

| Variable Type | Variable | Units of Measurement | Scale | Type of Analysis |
|---|---|---|---|---|
| Dependent | Performance of Pension Funds | 1.Log of Return on Investment | Nominal | Descriptive |
| | | | | |
| Independent | Portfolio Size | 1. Number of Assets Allocations in the mix | Nominal | Descriptive |
| | | | | |
| | Average Age of Pensioners | 1. Average age of pensioners | Nominal | Descriptive |
| | | | | |
| | Access to Capital | 1. Modern ratio of pension funds | Nominal | Descriptive |
| | | | | |
| | Leverage | 1. Debt to total Assets ratio | Nominal | Descriptive |
| | | | | |
| | Retained Earnings | 1. Retention Ratio | Nominal | Descriptive |

Source: Researcher (2018)

### 3.6.2 Test of Significance

Tests of significance was used in the study which included Bivariate Correlation between the asset classes and portfolio returns, R- square and ANOVA.R-Square (Co-efficient of Determination) to establish how much of the variability of fund returns was caused or explained by the independent variable over time. Analysis of Variance (ANOVA) was used to determine the linear relationship among the variables in the regression model.

### 3.7 Diagnostic Tests

A number of diagnostic tests were done on the data to ascertain the validity and reliability of the data. Some of these diagnostic tests include: normality test, multi-collinearity test, auto-correlation test and homoscedacity test.

# CHAPTER FOUR: ANALYSIS PRESENTATION AND DISCUSSION OF FINDNINGS

## 4.1 Introduction

This chapter presents the findings of the study. It covers the analysis of data and discussing the results. Secondary data was collected and analyzed in this research. It is composed into three areas. Segment one, which is the general segment, the general characteristics of the data. The study focused on how portfolio mix may affect the financial performance of a pension fund. This area comes before different areas since it affirms whether the information was satisfactory. Section two talks about the information gathered highlights in connection to the investigation. The area incorporates how the investigation investment were tried. SPSS Version 20 was utilized to dissect the information. The starter examination was led to check for any infringement in ordinariness, balance of variances and linearity. The information gathered satisfied every one of the Assumptions, taking into consideration parametric tests to be directed.

The initial phase in examining the information was through elucidating measures. This was accomplished using SPSS. Secondary data was acquired through organization of reports and material from different Pension fund managers. The pension fund managers submitted data of 70 schemes. The data was compiled and only data of 35 pension funds were found to be valid. The data was in five main categories of determinates of portfolio performance, Leverage, Portfolio size, average age of pensioners, access to capital and Retained earnings. The researcher classified the returns into 3 months (quarterly), 1 year and 3 years.

This is because the fund managers' report quarterly to the trustees. Trustees report annually to the members of the pension fund through the AGM and interest is declared annually by issuing member statements. Actuarial reviews are conducted every three years as per the RBA Act 197. Therefore the researcher found it important to capture the performance of the portfolio mix at the reporting periods. Descriptive statistics, regression and inferential statics were used to interpret the data. The asset value ranged from Kshs. 14 million to 8 billion.

## 4.2 Characteristics of Data Collected

The secondary data collected was examined for trends and special characteristics. The data was later categorized based on specific features. According to Rogelberg & Stanton (2007) classification of secondary data into groups makes it easy to carry out analysis on the data. Ibid (2007) furthermore argue that secondary data has more meaning when categorized into groupings based on the objectives of the analysis. The secondary data collected in this research was appropriate for drawing conclusions on the study objectives.

## 4.3 Reliability Analysis

Reliability is a proportion of how much research instruments yield predictable outcomes after rehashed preliminaries. Reliability is impacted by irregular error with the end goal that as arbitrary mistake expands, unwavering quality declines. Reliability of the examination instrument was resolved utilizing the size of Cronbach's coefficient alpha. Cronbach Alphas in our examination for all of the fragment of the instrument were as exhibited in Table 4.1.

Table 4.3: Reliability Tests

| Reliability Statistics | | |
|---|---|---|
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
| 7.743E-007 | .601 | 5 |

The estimation of Cronbach's alpha for autonomous factors is above 0.936, which implies that the develops were solid for foreseeing operational performance. Additionally, the Cronbach's Alpha qualities for portfolio size and the dependent variable, Performance (Return on Investment), were 0.935. This implies that individual constructs were reliable for measuring the parameters of 33.

## 4.4 Descriptive Statistics

For confidentiality reasons the fund managers could not reveal the names of the pension funds. The researcher therefore coded the pension funds from P.F 1 to P.F. Cross tabulation results indicate that majority, 40% of the pension funds had an asset value less than Kshs. 250 million and that their total asset value combined was the least at 4%

of the total asset value under consideration, Kshs. 46.5 billion. Pension funds with asset value above 1 billion, large funds, were 34% contributing majority 87%, Kshs 40.68 billion of the asset value under consideration.

Table 1: Size Categorization of Participating Schemes

| Size of the pension fund | Market Value (Kshs. M) | Number of pension funds | Pension fund percentage | Asset percentage | AUM in(Kshs. M) |
|---|---|---|---|---|---|
| SMALL | ≤ 250 | 14 | 40% | 4% | 1,636 |
| MEDIUM | 250 - 999 | 8 | 26% | 9% | 4,234 |
| LARGE | ≥ 1,000 | 11 | 34% | 87% | 40,678 |
| TOTAL | | 33 | | | 46,548 |

Source: Author (2018)

Graph 1: Allocation of Participating Pension Schemes by Number
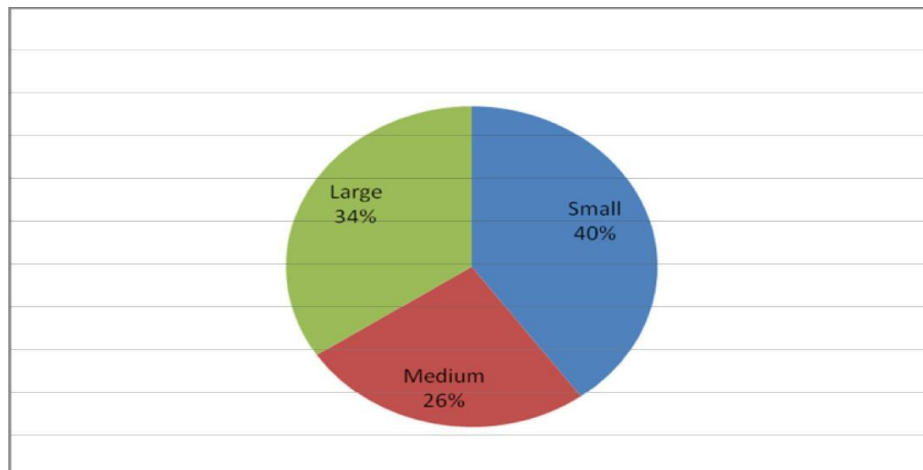


Source: Author (2018)

Graph 2: Allocation of Individual Pension Schemes by Portfolio Size



Source: Author (2018)

## 4.5 Determinants of Portfolio Performance

### 4.5.1 Portfolio Size

The first determinant of portfolio performance is Portfolio size. It refers to the total monetary value of fund invested in different assets classes. The table below shows the portfolio size. Natural log of portfolio sizes were used the analyses descriptive for portfolio size

Table 4.5.1: Portfolio Size

**Descriptive Statistics**

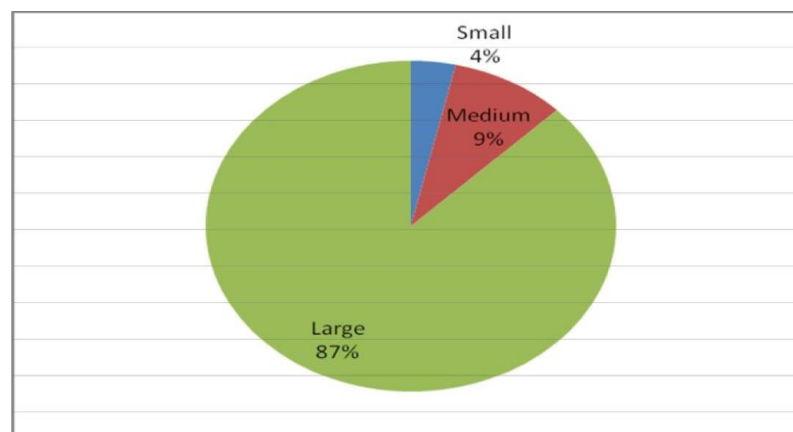|  | N | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|
| PORTFOLIO SIZE | 33 | 6.5551 | 7.3374 | 7.082546 | .2014172 | .041 |
| Valid N (listwise) | 33 |  |  |  |  |  |

Source: Author's Calculations (2018)

The results in table 4.5.1 above show that the mean size of the portfolios of all the schemes was 7.0825. The maximum size in the list of schemes was 7.3374. This implies that majority of the schemes were more stablished and had good financial strength owing to the high mean portfolio size. Portfolio size is an important aspect in the management and investment of pension funds in the capital market. It promotes diversification of risks. According to Dasgupta et al, (2011) argue that portfolio mix improves the cash outlay of pension funds thus allowing pension funds to invest with positive return on investments. Markowitz (2009) indicated that the weighing of individual securities inside the portfolio is fundamental. The weight that a portfolio administrator dispenses to a given security in a portfolio makes commitment to refunds that is similarly as critical as the security decision and speculations timing decisions. The manager found that support managers would in general hold reliable in developing and keeping up equivalent weights in the board of retirement pension schemes.

Bigger schemes enjoy economies of scale they can spread risks across a wider membership base allowing them to give members a bigger return. It is the major concern of all financial institutions to minimize cases of nonperforming investments. This will reduce cases of such investments affecting financial performance. A lower rate of nonperforming investments to total investments shows that the scheme portfolio is performing well. The manner at which pension managers award finances among investment channels matters most on total performance, (Stamati, 2013).

**4.5 2 Average Age of Pensioners**

The second indicator of performance under investigation was the average age of pensioners. The lower the average age of pensioners, the better for the scheme's performance. The recommended average age of pensioners according to industry practice is 40. The table 4.5.2 has the statistics.

Table 4.5.2: Average Age of Pensioners

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|
| AVERAGE AGE OF PENSIONER | 33 | 38 | 56 | 48.48 | 4.032 | 16.258 |
| Valid N (listwise) | 33 | | | | | |

Source: Author (2018)

Results in table 4.5.2 above show that the mean age of pensioners in the scheme was 48.48, 8 units above the ideal mean age of 40. The maximum age was 56 and the lowest was 38. This implies a high risk factor in the schemes. According to Kipkoech (2012), the average age of a members of a benefits scheme is exceptionally improtant in deciding its performance. If a scheme has larger more youthful benefactors who have not accomplished retirement age, it infers that they will have more money related assets that can be directed into speculation exercises in this manner acquiring more pay. However if the vast majority of the contributors are old and about achieving retirement, the funds needs to spend more assets for asset retirement schemes for the contributors, and this recommends there will be less funds available for investment.

**4.5.3 Leverage**

The third independent variable under investigation is leverage. Leverage is the ratio of Debt/Equity Leverage is a debt ratio used to measure a company's financial leverage, calculated by dividing a company's total liabilities by its stockholders' equity. This ration should be as low as possible for the fund to of good financial health.

Table 4.5.3: Leverage

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|
| LEVERAGE | 33 | .1061 | .6545 | .265230 | .1561983 | .024 |
| Valid N (listwise) | 33 | | | | | |

Source: Author (2018)

Results in Table 4.5.3 show that the mean ratio of debt to equity was 0.265230. The maximum ratio was 0.6545 whereas the minimum ratio was 0.1061. This implies liquidity of funds and that the schemes are operating optimally and therefore financially stable.

## 4.5.4 Access to Capital

The ration of Modern assets to Modern liabilities of pension schemes tells us the level of access to capital by the pensioners. A ratio greater than one shows the scheme has enough Modern assets to meet Modern liabilities hence access to capital. A ratio that is too high may indicate that the scheme is not efficiently using its Modern assets or short-term financing

Table 4.5.4: Access to Capital

**Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|
| ACCESS TO CAPITAL | 33 | .3720 | .9820 | .669727 | .1742841 | .030 |
| Valid N (listwise) | 33 |  |  |  |  |  |

The results in Table 4.5.4 above show that mean ration of Modern assets to Modern liabilities is 0.669727. The maximum score was 0.9820 while the minimum score was 0.3720. The mean is neither high nor low. It is moderate and therefore an indication that that the level of access to capital is fair.

## 4.5.5 Retained Earnings

The fifth independent variable under investigation was Retained earnings. Retained earnings are simple net earnings not paid as dividends. Retained earnings to total asset ratio have to be 1:1 for good performance. The results are shown in table 4.5.5

Table 4.5.5: Retained Earnings

**Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|
| RETAINED EARNINGS | 33 | .1000 | .8300 | .384545 | .1582737 | .025 |
| Valid N (listwise) | 33 |  |  |  |  |  |

Source: Author (2018)

The results in the table above show that the mean earning which is retained by the schemes is 0.384545. The maximum is 0.8300 whereas the minimum retained earnings is 0.1000. This implies that very little is retained and ploughed back as capital. This can be riskous for the schemes as they may resort to borrowing in order to top up when carrying out capital intensive projects.. According to Payet, (2011), the higher the retained earnings to asset ratio the less reliant the scheme is of other common types of debt to equity financing,

## 4.6 Performances

Fund performance was measured using natural log of Return on investments. Descriptive statistics were generated in SPSS the outcomes tabulated as shown in Table 4.6

Table 4.6: Performance

**Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|
| PERFORMANCE OF PENSION FUNDS (LOG ROI) | 33 | 2.0840 | 8.0840 | 5.667 | 1.7198 | 2.958 |
| Valid N (listwise) | 33 |  |  |  |  |  |

Source: Author (2018)

The results indicate the mean performance was 5.667 and the standard deviation was 1.7198. This shows that the performance of pension funds was above average especially given that the maximum performance score was 8.0840 and the minimum performance score was 2.0840

## 4.7 Diagnostic Tests

This study utilized multiple linear regression equation to test the impact of the independent variable on the predictor variable. Nonetheless, before testing the exploration investment, it was critical to complete demonstrative tests to meet the fundamental presumptions of relapse to appraise relapse models precisely. Assumptions of ordinariness, homogeneity of variance, linearity and multi-collinearity were considered before settling on the decision to utilize multiple linear regression. Diagnostic indicative tests included tests for normality, linearity, homoscedasticity and multi-collinearity. The tests and results are therefore discussed below.

### 4.7.1 Normality Test

The study tested for normal allocation by using the Shapiro-Wilk test. A data is normally distributed when the test is non-significant (p>0.05) (Razali & Wah, 2011). Table 4.7.1 shows the result of normality test as were tested.

Table 4.7.1: Shapiro- WilkTest

**Tests of Normality**

|  |  | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
|  |  | Statistic | df | Sig. | Statistic | df | Sig. |
|  | LARGE | .142 | 12 | .200[*] | .897 | 12 | .143 |
|  | MEDIUM | .171 | 16 | .200[*] | .955 | 16 | .572 |
|  | SMALL | .340 | 5 | .060 | .781 | 5 | .057 |

This is a lower bound of the true significance.

Lilliefors Significance Correction

Source: Author (2018)

Results in Table 4.7.1 demonstrates that the exploration factors had Shapiro-Wilk Test insights going from 0.781 to 0.955. Additionally, the relating p-values for every factor were all more than .05. Consequently, the investigation reasoned that the information was typically normal.

### 4.7.2 Linearity Test

Linearity tests included making a presumption that there exists a linear connection between the dependent variable and the indicator factors. To meet this assumption, linearity test was tried as prescribed by Greene (2002) and Cohen, West and Aiken (2003). The linearity estimates included testing for the degree of the deviation from linearity. Testing for the importance of deviation from linearity proposed testing the null hypothesis that deviation from linearity isn't enormous. The decision is to dismiss the null hypothesis at the point where point p-value is under .05. The last strategy was utilized and the outcomes were tabulated as shown in Table 4.7.2.

Table 4.7.2: Linearity Test

**Descriptive Statistics**

| N | Significance of deviation from Linearity (p-values) | Observation | Conclusion |
|---|---|---|---|
| Portfolio Size | .985 | Deviation from Linearity not significant | Linear |
| Average age of Pensioner | 1.178 | Deviation from Linearity not significant | Linear |
| Access to Capital | .993 | Deviation from Linearity not significant | Linear |
| Leverage | 1.355 | Deviation from Linearity not significant | Linear |

Source: Author (2018)

Table 4.7.2 demonstrates that all the predictor factors, deviation from linearity was not tremendous since all the p-values were more perceptible than .05. This proposed there is a straight relationship between the dependent and predictor.

### 4.7.3 Homoscedasticity Test

Homoscedasticity or homogeneity of instability recognize that the distinction in the dependent variable is simply the corresponding at all segments of the independent variable. This test performed utilizing Levene's test. This measurement estimates regardless of whether the variance between the reliant variable and free factors are the equivalent. In the event that the test isn't huge (determined likelihood $\geq 0.5$), the two variances are not fundamentally extraordinary and along these lines roughly equivalent (Gastwirth, Gel and Miao, 2009). Results are as arranged in Table 4.7.3.

Table 4.7.3: Homoscedasticity Test Based on Category as a factor

**Test of Homogeneity of Variance**

| | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| Based on Mean | .025 | 2 | 30 | .975 |
| Based on Median | .086 | 2 | 30 | .918 |
| Based on Median and with adjusted df | .086 | 2 | 22.497 | .918 |
| Based on trimmed mean | .019 | 2 | 30 | .981 |

Source: Author (2018)

Tables 4.9.3 shows that the factors have Levene's measurement whose p-values are more noteworthy than .05. This means the differences of the needy variable over all dimensions of the factors were equivalent. Warner (2008) suggests that the likelihood for the Levene's measurement ought to be more prominent than .05 to meet the variance homogeneity suspicion. Thus, the homoscedasticity supposition is fulfilled. Along these lines, the relapse demonstrate for this examination is appropriate for investigation.

### 4.7.4 Multicollinearity

Multicollinearity included deciding if there is connection between's the investigation factors separated from the needy variable. Multicollinearity expands the standard mistakes of the coefficients. Subsequently, it makes a few factors measurably inconsequential while they ought to be generally huge. The effect of multicollinearity was built up utilizing Tolerance values and Variance swelling factors (VIF). As illuminated by Field (2009), a little obstruction regard exhibits that the variable under idea is practically a perfect straight mix of the free factors starting at now in the condition and that it should not be added to the backslide condition. Regardless, an opposition estimation of under 0.1 indicates proximity of multicollinearity. VIF measures how much changes of the overviewed coefficients are reached out over the event of no relationship among the free factors. From SPSS yield, if no two free factors are connected, all the VIFs were 1. In the event that VIF for one of the segments is close or more basic than 5, there is multicollinearity related with that variable and, in this manner, the variable must be expelled from the lose the faith represent (Field, 2009).

Table 4.7.4: Collinearity

**Coefficients[a]**

|  | Collinearity Statistics | |
| --- | --- | --- |
|  | Tolerance | VIF |
| AVERAGE AGE OF PENSIONER | .946 | 1.057 |
| ACCESS TO CAPITAL | .735 | 1.360 |
| LEVERAGE | .674 | 1.483 |
| RETAINED EARNINGS | .878 | 1.139 |

a. Dependent Variable: PORTFOLIO SIZE

Source: Author (2018)

Table 4.7.4 demonstrates that all the VIFs of the factors are below 10 and all the tolerance values are more than 0.1 separately. As per Landau and Everitt (2004), VIFs values that are between 1 and 10, and tolerance values that lie above 1 indicate the absence of multicollinearity. A high VIF was seen in use (VIF = 1.483) while a small value of VIF was seen in normal time of beneficiaries (VIF = 1.057). Use yielded the minimum resilience value at 0.674 and normal period of retired person developed the most elevated resistance value at 0.900. This infers that there was no multicollinearity and along these lines all the indicator factors were kept up in the regression equation, as this is predictable the edge suggested by Everitt (2014).

## 4.8 Regression Model Analysis

Regression analysis was done on the dependent and independent variables to establish the relationship between performance and the independent variables of: portfolio size, average age of pensioners, access to capital, leverage and retained earnings. The regression model summary, coefficients and ANOVA tables are shown below:

Table4.8.1: Model Summary

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
|       | .927[a] | .860 | .834 | .7002746 |

a. Predictors: (Constant), RETAINED EARNINGS, ACCESS TO CAPITAL, AVERAGE AGE OF PENSIONER, PORTFOLIO SIZE, LEVERAGE

b. Dependent Variable: PERFORMANCE OF PENSION FUNDS (LOG ROI)

Source: Author (2018)

**Table 4.8.1: ANOVA**

**ANOVA[a]**

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|-------|----------------|-----|-------------|--------|-------|
| Regression | 81.407 | 5 | 16.281 | 33.201 | .000[b] |
| Residual | 13.240 | 27 | .490 | | |
| Total | 94.647 | 32 | | | |

a. Dependent Variable: PERFORMANCE OF PENSION FUNDS (LOG ROI)

b. Predictors: (Constant), RETAINED EARNINGS, ACCESS TO CAPITAL, AVERAGE AGE OF PENSIONER, PORTFOLIO SIZE, LEVERAGE

According to Table 4.4.3, the variation between the groups sum of squares was 81.408; with degree of freedom df (5); F (5, 27) = 33.201; P<0.00 <0.05; therefore there was significant relationship between the dependent and independent variables.

**Table 4.8.2: Model Coefficients**

**Coefficients[a]**

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | -50.587 | 4.931 | | -10.258 | .000 |
| PORTFOLIO SIZE | 8.103 | .647 | .949 | 12.532 | .000 |
| AVERAGE AGE OF PENSIONER | -.025 | .032 | -.059 | -.802 | .430 |
| ACCESS TO CAPITAL | .524 | .860 | .053 | .610 | .547 |
| LEVERAGE | .318 | .968 | .029 | .328 | .745 |
| RETAINED EARNINGS | -.887 | .839 | -.082 | -1.057 | .300 |

a. Dependent Variable: PERFORMANCE OF PENSION FUNDS (LOG ROI)
Source: Author (2018)

From table 4.8.2, 86.7% of the performance of pension funds is explained by portfolio size. The other 14.3% is explained by factors not investigated in this study. From table 4.8.2 above, it is clear as the coefficient indicates that portfolio size contribute significantly to the returns on investment (ROI). All the other variables with p-values greater than 0.05 are insignificant. The resultant model is as shown below.

**Model 1:** $Y = 8.103X_1 - 50.587 + \varepsilon$

## 4.9 Discussion of Findings

Financial performance of pension funds in Kenya is greatly influenced by the portfolio size. Based on the analysis conducted on the data collected portfolio size has been found to be the only significant variable among the four. This supports the capital market theory that the financial performance of an investment portfolio depends on its size. Bodie et al (2008) indicates that on the basis of average returns appears to have a substantial asset for the investor with a reasonably large capital outlays. This has been confirmed by the analysis with Portfolio size having the only significant p-value of 0.000.

The findings confirm Onyango (2011) statement that large sizes portfolios generally generate higher returns compared to small ones (bonds). Karanja (2011) study found out

that most pensions schemes were huge amounts of money in many different classes of assets. From the analysis, this may have been an attempt to ensure they achieve higher returns from the pressure by trustees and members of the pension funds. This is because Portfolio size have proved to provide superior returns.

# CHAPTER FIVE: SUMMARY,CONCLUSION AND RECOMMENDATIONS

## 5.1 Summary

The present study has evaluated the financial performance on portfolio mix held by individual pension schemes in Kenya. The study further examined how the different factors affect the performance of individual pension fund in Kenya. Some studies that have been reviewed in this paper suggest that indeed the portfolio sizes held by pension schemes in Kenya have an effect on their financial performance. The objective of this paper was to present logical and empirical evidence on evaluation of financial performance of individual pension schemes in Kenya.

## 5.2 Conclusion

The study looked at ways and possibility of enhancing the proficiency of individual benefits schemes to accomplish their definitive goal of giving retirement benefits to member at retirement by considering the correct components that will increase returns of the pension funds. This is done in light of the dynamic pension schemes requirements and maturity of pension liabilities through the resignation of contributors and retirement. Trustees should likewise consider the risk introduction to the individuals from the benefits assets and exercise their guardian duty in accordance with the stipulations of the RBA directions.

From the exploration, Portfolio estimate performed better contrasted with every other variable under examination. Portfolio measure performed better in extensive pension finance contrasted with medium and little assets.

From the research findings portfolio measure significantly affects the financial performance of a benefits schemes in Kenya. Hence it is extremely basic for individual benefits schemes to consider the asset mix in the funds.

## 5.3 Recommendations

Based on this study, it is clear that trustees need to acquire some financial management knowledge in order to properly oversee the operations of the pension funds. Members of the pension funds electing trustees to represent them in the

pension fund board need to bear that in mind. They may need to ensure that finance officers and accountants are part of the board. But also include trustee with integrity and proper governance skills. The pension funds must also invest in members of the fund by conducting regular member education. An educated membership will put trustees to task during the AGM on the performance of the fund. Through education, members will know how they can improve the pension expected on retirement by contributing Additional Voluntary Contribution (A.V.C) which also reduces the amount the members pays as Pay As You Earn (P.A.YE) tax at source.

The pension funds through Associations of Retirement Benefits Schemes (ARBS), Retirement Benefits Authority (RBA), Kenya Revenue Authority (KRA) and Institute of Certified Public Accountants (ICPAK) must lobby for fair tax systems to the senior citizens. These include increasing the tax exempt amount from the Modern Kshs. 20,000.

## 5.4 Limitations of the Study

As with any research, this study had a range of challenges. The data used was secondary data availed by individual pension schemes. Some of the data received were not complete; some had the overall return missing, the total asset value not indicated or one period return not included. The researcher therefore had to discontinue analyzing the data of pension funds that had some of the data missing.

It would have been much better to consider data over a long period of time say 10 years, bearing in mind that pension fund are considered long term investments. The researcher had limited time and funds to collect the information. Most of the pension lacked proper records of archived data therefore making it very difficult to retrieve the historical data. Due to confidentiality, it was difficult to get more information on the decision of the performance records to use. It was also difficult to gather specific trustee's views.

## 5.5 Suggestions for Further Research

There is need for further research on the impact on mandates to the fund managers by the trustees, asset management styles and approaches. The researchers should look at the effects of the discretionary and non-discretionary investment mandates to the fund

managers. That is the level of freedom (discretion) given to a fund manager by the trustees to invest the funds in accordance with the fund managers best investment view. In many instances broad parameters were set by the trustees but the fund managers had complete autonomy in the investment decision making.

In some few cases the trustees were involved in the investment decision making and would instruct the fund manager how and in which assets to invest. This was common in the financial sector where most of the trustees had financial and investment knowledge. Significant volatility was noted on Leverage for large funds. This was unusual. There may be need to investigate the reason for the big range in returns on Leverage for large funds.

One may also want to research on the financial performance of segregated pensions funds compared to guarantee or self-administered pension funds. It will also be interesting to find out the effect of the recently introduced capital gains tax (CGT) on the financial performance of pension funds.

# REFERENCES

Antolín, P., Payet, S., Whitehouse, E. R., &Yermo, J. (2011). The role of guarantees in defined contribution pensions. *OECD working papers on finance, insurance and private pensions*, (11), 1.

Arnott R.D, Bernstein P.L. & Hall A.V. (2009). *Defining Management Pension Fund Risk.* Johanesberg: Veto Publishers.

Blake D., Lehmann B. N. & Timmermann. (2010). *Asset allocation Dynamics and Pension Fund Performance.* New Delhi: Punjab Publishers.

Brian, K., & Patrick, L. (2010). OECD insights from crisis to recovery the causes, course and consequences of the great recession: The causes, course, and consequences of the great recession. OECD Publishing. *The Journal of Finance*, 65(2), 765-790

Brinson G., Singer B. & Beebower G. L. (2011). Determinants of Portfolio Performance II. *Financial analyst Journal*, pp 41-42.

Brinson G.P. Hood L. R & Beebower G.L. (2016). Determinants of Portfolio Performance. *Financial Analyst Journal*, 13-14.

Chasan, E. (2012). Mid-size firms tap retained earnings to fund growth. The *Wall Street Journal of small business management*, 56(2), 50-90.

Chirchir S. (2017). The Rationale for quontitative Portfolio ceiling on investment of Retirement benefits funds. The Case of Kenya. *Retirement Benefits Authority*, 19-20.

Collie B., Sylvanus M. & Thomas M. (2011). *Volatility-responsive asset allocation.* Atalanta, Georgia.

Currenticki J. & Ong F. (2013). Evaluating managed Fund Performnce Using Conditional Measures. *Pacific Basin Finance Journal*, 96-98.

Currenticki J. & Thomson, K. (2009). *An Investigation into the Performance of Recomended Funds: Do the managed Funds Approved by Research Companies outperform the Non-Gratae?* BangKok: Pacific Publishers.

Currenticki J. (2015). Investors Response to the Performance of Professional Fund Manager. Evidence from Australian Wholesale Fund. *Journal of Management*, 7-8.

Dhameji, S.K. and Dhameji, S. (2009), Industrial Psychology, New Delhi: S.K. Kataria

Drobetz W. & Kohler E. (2012). The Contribution of Asset Allocation Policy to Portfolio Performance. *Swiss Society For Financial Market Research,*, 219-233.

Drobetz W. (2014). How to Avoid the Pitfalls in Portfolio Optimization. Putting the Blank-Litterman Approach to work. *Financial Markets and Portfolio Management*, 67-69.

Fischer B. & Litterman R. (2012). Global Portfolio Optimization,. *Financial Analysts Journal*, 81-84.

Government of Kenya (2017). *Retirement Benefits Act, 2007. Available: http://www.rba.go.ke.* Nairobi: Government of Kenya.

Grande, G., &Visco, I. (2011). A public guarantee of a minimum return to defined contribution pension scheme members. *The Journal of Risk*, 13(3), 3.

Hinz R., Rudolph H. P., Antolin P. & Yermo J. (2010). *Evaluating performance of Pension Funds.* Geneva: World Bank.

Ibbotson R.G. & Kascheme P. (2012). Does asset allocation policy explain 40, 90 or 100 per cent Performance. *Financial Analyst Journal*, 56-58.

Kagunda T. (2011). Asset Allocation by Fund Managers and the Financial Performance of Unit Trust in Kenya. *Unpublished MBA Project, University of Nairobi*, 27-30.

Kenya Labour Organization. (2010). *Retirement benefits (Occupational retirement benefits schemes) Regulation.* Nairobi: Kenya Labour Organization.

Kipkoech, C. N. (2012). Determinants of the Growth of Individual Pension Schemes in Kenya (Doctoral Dissertation, University Of Nairobi).

Lofthouse J. (2011). Returns-Chasing Behavior, Mutual Funds, and Beta's Death,. *The Journal of Financial and Qualitative Analysis. University of Washington, School of Business Administration.*, 14-15.

Lungu, F. (2011). An Assessment of the Viability Of Occupational Pension Schemes on Zambia (Doctoral Dissertation, Master of Business Administration (MBA); 2009).

Markowitz H. (2009). *Portfolio selection: Efficient diversification of investments.* New York: John Wiley & Sons.

Mugenda & Mugenda. (1999). *Research Methods, Quantitative and Qualitative Approaches.* Nairobi: Acts Press.

Mugenda, O. M., &Mugenda, A. G. (2003). Qualitative and Quantitative Approaches. Research Methods Africa Center for Technology Studies (Acts) Press. Nairobi Kenya.

Mutuku N. (2011). *Impact of Market Volatility on Kenyan Pension Scheme Long Term Asset Allocation and Risk Tolerance.* Nairobi: RBA.

Nguthu J. (2009). The effects of asset allocation on retirement benefits fund Performance in Kenya. *Unpublished MBA Project, University of Nairo bi*, 39-41.

Njeru, S. E. (2014). An Evaluation of Financial Performance on Portfolio Holdings by Pension Funds in Kenya (Doctoral Dissertation).

OECD. (2016). *OECD guidelines on pension fund management. OECD Guidelines on Pension Fund Management.* London: OECD.

Oluoch, M. A. (2013). The Determinants of Performance of Pension Funds in Kenya (Doctoral Dissertation, University Of Nairobi).

Omondi E. A. (2013). The relationship between asset allocation and performance of Pension Funds in Kenya. *Unpublished MBA Project, University of Nairobi*, 33-34.

Puttonen V. (2015). Asset allocation in Finnish pension funds. Journal of pension, economics and Finance. *Journal of Economics and Finance*, 89-94.

Reilly F. K. & Brown C. K. (2011). *Investment Analysis and Portfolio Management. Sixth Edition.* Fortworth: The Dryden Press.

Retirement Benefits Authority. (2010). *Retirement Benefits (Occupational Retirement Benefits Schemes) Regulations, 2000.* Nairobi: Retirement Benefits Authority.

Satchel S. & Scowcroft A. (2010). *A Demystification of the Black-Letterman model: Managing Qualitative and Traditional Portfolio.* Perth: Ausi Publishers.

Saunders M., Lewis P. & Thornhill A. (2009). *Research methods for business students. 5th Edition.* Michigan: Prentice Hall.

Schoyen, M. A., &Stamati, F. (2013). The Political Sustainability of the NDC Pension Model: The Cases of Sweden and Italy. Eur. J. Soc. Sec., 15, 79.

Sharpe W. F. (2016). Mutual fund performance, Journal of business. *Journal of Business*, 11-12.

Stux I. (2015). *Managing the risk of pension assets. In: Financial risk and the corporate Treasury.* London: Risk Publications, Deloitte and Touche.

Sule, K.O. and Ezugwu, C.I. (2009), "Scheme on Employee Retirement Benefits of Quoted Firms in Nigeria," African Journal of Accounting, Economics, Finance and Banking Research, 4(4), 48 – 58

Surz R., S. D. (2014). The Importance of Investment Policy. *Journal of Investment*, 29-36.

Swietanowski A. (2013). *Dynamic asset allocation under uncertainty for pension fund.* Ontario: Centrino Publishers.

Walker E & Iglesian A. (2010). *Financial Performance of Pension Funds: An Exploratory Study.* New York.

World Bank. (2011). *State of the Kenyan Economy.* World Bank.

World Bank. (2012). *Pension Reform Primer, Pension investment Restrictions comprise fund.* World Bank.

# APPENDICES

## APPENDIX 1: LIST OF 34 INDIVIDUAL RETIREMENT BENEFITS SCHEMES REGISTERED WITH RBA

| S/N | SCHEME | ADDRESS | TOWN | PHONE | EMAIL |
|---|---|---|---|---|---|
| 1 | Amana Personal Pension Scheme | 9480-00100 | Nairobi | 313356 | |
| 2 | Apollo Insurance Co. Ltd. Individual Pension Scheme | 30389 | Nairobi | 223562 | info@apainsurance.org |
| 3 | Blue MSMEs Jua Kali Individual Retirement Benefits Scheme (Mbao Pension Scheme) | 30664-0000 | Nairobi | 4946500 | |
| 4 | British American Personal Pension Scheme | 30375 | Nairobi | 2710927 | britak@britak.co.ke |
| 5 | CFC Life Individual Pension Scheme | 30364-00100 | Nairobi | 2866000 | |
| 6 | Chancery Personal Pension Scheme | 55537-00200 | Nairobi | 2711555 | chancery@chancerywright.com |
| 7 | CIC (Jipange Personal Pension Scheme) | 59485-00200 | Nairobi | 2823000 | life.pensions@cic.co.ke |
| 8 | Commercial Bank of Africa Individual Pension Scheme | 30437-00100 | Nairobi | 2884000 | contact@cbagroup.com |
| 9 | CPF Individual Pension Scheme | 28938-00200 | Nairobi | 2248408 | |
| 10 | Dry Associates Personal Provident Scheme | 684-00606 | Nairobi | 4450520 | pensions@dryassociates.com |
| 11 | Enwealth Diaspora & Expatriates Retirement Fund | 52840-00200 | Nairobi | 8160312 | info@enwealth.co.ke |
| 12 | Enwealth Personal Pension Scheme | 52840-00200 | Nairobi | 8160312 | info@enwealth.co.ke |
| 13 | GA Life Personal Provident Scheme | 42166-00100 | Nairobi | 271633 | insure@gakenya.com |
| 14 | GA Life Personal Pension Scheme | 42166-00100 | Nairobi | 271633 | insure@gakenya.com |
| 15 | ICEA Lion Individual Retirement Benefits Scheme | 46143 | Nairobi | 221652 | hof@icea.co.ke |
| 16 | Jubilee Insurance Company Ltd Personal Pension Scheme | 30376 | Nairobi | 340343 | jic@jubileekenya.com |
| 17 | Kenindia Assurance Co. Ltd. Personal Pension Scheme | 30377 | Nairobi | 316099 | kenindia@africaonline.co.ke |
| 18 | Kenyan Alliance Insurance Co. Ltd. Individual Retirement Benefits Scheme | 30170 | Nairobi | 241626 | kai@kenyanalliance.com |
| 19 | Liaison Personal Retirement Scheme | 58013-00200 | Nairobi | 703071000 | fs@liaisongroup.net |
| 20 | Madison Insurance Personal Pension Scheme | 47382 | Nairobi | 2721970 | madison@nbnet.co.ke |
| 21 | Mercantile Personal Provident Fund Scheme | 20680-00200 | Nairobi | 2243681 | mercantile@mercantile.co.ke |
| 22 | Minet Individual Pension Scheme | 48279-00100 | Nairobi | 4974000 | ebd@aon.co.ke |
| 23 | Mwavuli Individual Pension Scheme | 10472-00100 | Nairobi | 2220099 | |
| 24 | The Heritage AII Company Ltd. Individual Retirement Benefits Scheme | 30390-00100 | Nairobi | 3749118 | info@heriaii.com |
| 25 | The Kenya Orient Individual Pension Scheme | 34530-00100 | Nairobi | 2728603 | info@korient.co.ke |

| 26 | The Monarch Personal Pension Scheme | 44003 | Nairobi | 310048 | monarch@form-net.com |
|----|-------------------------------------|-------|---------|--------|----------------------|
| 27 | Octagon Personal Pension Scheme | 10034-00100 | Nairobi | 0708726830/ 0732343595 | info@octagonafrica.com |
| 28 | Old Mutual Individual Retirement Benefits Scheme | 30059-00100 | Nairobi | 2829000 | pensionservices@oldmutualkenya.com |
| 29 | Pan Africa Life Personal Pension Scheme | 44041-00100 | Nairobi | 247600 | |
| 30 | Pioneer Assurance Individual Retirement Benefits Scheme | 20333-00200 | Nairobi | 2220814 | |
| 31 | Stanlib Individual Pension Scheme | 30550-00100 | Nairobi | 3268508 | |
| 32 | UAP Life Assurance Individual Retirement Benefits Scheme | 43013-00100 | Nairobi | 2850000 | |
| 33 | Zamara Vuna Pension Scheme | 52439-00200 | Nairobi | 4969000 | vuna@zamara.co.ke |
| 34 | Zimele Personal Pension Scheme | 76528-00508 | Nairobi | 246273 | admin@zimele.net |

Source: RBA website, (2018)

(http://www.rba.go.ke/index.php/en/individual-retirement-benefits-schemes-registered-with-rba)