

**THE RELATIONSHIP BETWEEN RETIREMENT BENEFITS  
AUTHORITY INVESTMENT GUIDELINES AND FINANCIAL  
PERFORMANCE OF PENSION SCHEMES IN KENYA**

**PRESENTED BY**

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## **DECLARATION**

This project is my original work and has not been submitted for a degree in any other university.

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## **DEDICATION**

I wish to dedicate this research project to my parents, Mr. and Mrs. Miriti and my siblings Kimathi, Karimi and Sam for their support and encouragement. To aunt Flora and my friends, thanks for always challenging me to do better.

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## ABBREVIATIONS

ALM	-	Asset and Liability Management
CEE	-	Central and Eastern Europe
EMH	-	Efficient Market Hypothesis
MPT	-	Modern Portfolio Theory
OECD	-	Organisation for Economic Co-operation and Development
PF	-	Pension Fund
RBA	-	Retirement Benefits Authority
RBS	-	Retirement Benefits Scheme
SR	-	Sharpe Ratio
WB	-	World Bank

## **ABSTRACT**

Data used in the study was for the period 2003 to 2009. The Retirement Benefit Authority investment guidelines which became effective in 2001 classifies investment assets as cash and demand deposits in institutions licensed under the Banking Act in the republic of Kenya, fixed deposits and time deposits in institutions also licensed under the same Act, commercial paper and corporate bonds, government securities, preference and ordinary shares of quoted companies in East Africa, immovable properties and units in property Unit Trust Schemes incorporated in Kenya ,guaranteed funds, offshore investments in bank deposits, government securities and rated corporate bonds and investment in any other approved investments that should not exceed five percent . These guidelines stipulate the maximum in percentage terms that provident pension funds should invest in each of the specified assets. Though investment guidelines became effective from 2001, provident funds did not manage to adjust their investment portfolios due to various technicalities which included appointment of fund managers, custodians, trustees and an actuary. The study findings reveal that the different asset classes have varying effects on investment incomes of pension funds and ultimately on the overall financial performance of the pension funds. Therefore, fund managers should be selective in the RBA asset in which they invest while at the same time ensuring diversification of their investment portfolios. With the application of RBA guidelines, pension schemes have experienced reduced risk and reduction of variability in returns from year to year, an indication of more stable earnings.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1.1 Background of the Study**

Mutua (2003) defines a Retirement Benefits Scheme, also known as a Pension Plan, as any scheme or arrangement, whether established by a written law for the time being under force or by any other instrument, under which a person is entitled to benefits in the form of payments, determined by age, length of service, amount of earnings or otherwise and payable primarily upon retirement, death, termination of service or upon the occurrence of any other event as may be specified in such written law or any other instrument. Brigham and Gapenski, 1995 p.961 as quoted in Wanyama (2001) state that most companies and practically all government departments have some type of employee pension plan. As an investment vehicle, it seeks to provide individuals with a sufficient and consistent source of income after retirement when they are no longer earning a regular income from employment. A Pension Fund, therefore, is the pool of assets purchased using the contributions of its members with the aim of financing their retirement benefits.

### **1.1.2 Financial Performance of Pension Schemes**

According to Hlavac (2011), recent reform actions triggered mainly by the World Bank (1994) report move us into the situation in which a significant part of the future pension

provisions are becoming directly dependent on the future discounted yields that are to be delivered by these assets. However, the increased linkage between the levels of future pensions and the performance of invested assets leads the participants into the situation when part of their retirement income will be subject to the market uncertainties connected with the investment process.

Its potential consequences can be well documented on the recent financial crisis. To back up the last statement with numbers, according to the estimates of Antolin and Stewart (2009), the financial losses of Organisation for Economic Co-operation and Development pension funds in 2008 topped up to \$3.5 trillion or to about 20% of its total asset value in relative terms. The OECD (2010) states that around \$1.5 trillion have been already regained in 2009; but still, the investment losses experienced in 2008 have not yet been fully recovered by most of the OECD countries.

Rudolph (2010) asserts that the development of performance measurement framework specific to the pension funds industry is a relatively new topic in the academic literature. In fact, the impulse for the development of industrial specific evaluation framework tracks back to Campbell and Viceira (2002). In their work they emphasized the objective of the pension industry which is to ensure an adequate retirement income to future pensioners, and which is thus naturally different from the other forms of collective investment that are primarily concerned with the short-term asset maximization. Different objectives then define a different timeframe over which the performance should be

tracked, and which are also associated with the different levels of risk tolerance. Their work started to change the way researchers think about the portfolio and investment characteristics of pensions. Since then, a vast amount of academic research has been targeted to the development of optimal asset-allocation strategies incorporating fundamentals of life-cycle savings and management of risk.

Hlavac (2011) continues to state that in spite of the different objectives of pension industry and other forms of collective investment, the typical approaches used to measure the PFs performance have been so far mostly identical to the ones applied to other types of investment opportunities. Possibly, due to the relatively short time period for the implementation of new theoretical findings, most of the empirical research in the area of evaluation of pension funds' performance mostly focused on the aspect whether the scheme delivered a reasonable rate of return over some observation period. Naturally, this approach does not necessarily represent the above mentioned objectives of the funded pension schemes. This means that to compare the monthly or annual returns may not be totally meaningful, unless measured against a specific (set of) benchmark(s) that comply with the above mentioned objectives.

### **1.1.3 Regulator's Investment Guidelines and Financial Performance**

Chirchir (2007) argues that there are two broad reasons why governments establish regulations of the pension funds industry. One is consumer protection i.e. to provide a framework of rules that can help prevent the excesses and failures of a market if entirely

left on its own devices. The other reason is maintenance of stability in the pensions industry i.e. pension funds are a public good that justifies a more elaborate framework of regulation and supervision.

Fixing quantitative restrictions on investments is a global phenomenon as is evidenced by the many countries that have established regulations governing investment of pension funds. Quantitative regulations of investment funds take various forms. It could be restriction on industry structure where specific institutions can carry out the fund management business. For example, the Chilean pension reform established a new pension fund management industry. It could also be regulation of fund performance. In this case pension funds must guarantee an absolute return on investment. The returns are chosen based on the industry's average performance. This is the case in Germany and Chile. Lastly, it could be through regulations that impose limits on the share of investment assets held by pension plans. Typically these consist of setting ceilings (maximum) or floors (minimums) on the fund that can be invested in given assets. Floors are less frequent, Chirchir (2007).

Different countries have adopted different degrees of pension regulations. Many countries start off with stringent regulations but relax over time as the industry matures. Srinivas and Yermo (1999) cite Chile as an example. After 18 years of excessive regulations on investment of pension funds, Chile is continuously revoking and relaxing some of the quantitative restrictions on investment of pension funds. A pension fund

there can invest a maximum 40% in equities, 20% in commercial paper, 50% in government securities, 5 % self-investments and 12% in foreign investments. In Argentina 98% of pension funds must be invested in Argentinean investments. South Africa pension funds must be invested within allowable limits as directed in the Pension Fund Act 1956, section 19 and Regulation 28. US pension sector, the largest and most established in the world has no set regulations on investments of pension funds. It is a fully liberalised sector wholly reliant on the “prudent man rule” of investments after undergoing through a period of restricted investments. United Kingdom (UK) regulates all the aspects of pension administration save investments, which remains unregulated. They too follow the principle of prudent man rule after a time of restricted investments.

The retirement benefits Act devotes several sections in the Retirement Benefits Act and Retirement Benefits Regulation that provides directives or guidelines on investment of pension funds. These are contained in the Retirement Benefits Act 1997, sections 38 (1) (b), 39 and 40, Regulation 31 (1) of the retirement benefits (Individual Retirement Benefits Schemes) regulations 2000 and regulation 38 (1) of the Retirement Benefits (Occupational Retirement Benefits Schemes) Regulations 2000. Section 38 makes distinct restriction on the use of funds. Scheme funds cannot be used to make direct or indirect loans or invested in a bank, non-banking financial institutions, insurance company, or building society with a view to securing a loan. The Act bars direct loaning of scheme funds to any person or the use of scheme fund as loan collateral apart from

housing. This changed in 2008 following the passing of the Finance Bill to allow members to utilize their accumulated retirement benefits savings for acquiring mortgages.

Section (17-20) deals with the revised trust deed and rules and provides that RBS must amend and revise their trust deeds as per the guidelines specified in the quoted sections of the Act. The trust deed and rules is the constitution of the scheme and it sets out the name of the sponsor, trustees and their duties and powers. The rules are the operational details of the RBS and they set out eligibility to membership benefits, contributions, persons eligible for receiving benefits, conditions of eligibility to benefits, and how disputes can be resolved.

Section 37 requires all schemes to have a prudent investment policy. This is the investment management agreement section of the regulations, Mutua (2003). Regulation 37 of the retirement benefits (occupational retirement benefits schemes) Regulations 2000 stipulates the requirements for preparation of the investment policy, which must be prepared under the advice of a professional investment advisor and submitted to the Authority. The statement of the schemes' investment policy is expected to be revised and updated every three years. Legal notice No. 61 of 2006 made it mandatory for scheme trustees to submit their written investment policy to the RBA every three years. It requires that scheme trustees must appoint a fund manager who must be registered with RBA. A duly signed contractual fund management agreement should be submitted to RBA. Fund managers are expected to; advise the trustees on available investment



vehicles and expected risks and returns for each vehicle, make tactical asset allocation decisions based on the strategic asset allocation contained in the investment policy, undertake research at company, sector and country levels, to manage the portfolio so as to ensure liquidity is available to meet the retirement benefits schemes needs, to provide periodic reports to the trustees and the RBA on holdings and transactions and to provide the RBA with any information that may jeopardize members and sponsors benefits.

The investment regulations in Kenya require that unless a scheme opts to invest in guaranteed fund or pooled fund, investments of scheme funds should be guided by the stipulated percentage limits. These limits are stipulated in Regulation 38 and Table G of the Retirement Benefits Regulations. These investment guidelines provide maximum limits only and do not require schemes to invest in a particular class of assets i.e. the investment provisions act as guidelines and the Authority does not specify the assets in which scheme should investment. It is left to the scheme to entirely select the assets they deem best suitable to give the best optimal return in accordance to the scheme's fundamentals. However, such limits can be exceeded under special cases which are beyond the control of the scheme that include increase in market price of assets, bonus issues and transfer of investment from one class of asset to another. The duration of time that schemes can hold investments above the required ceilings is limited to ninety days. Schemes must rebalance their investments within the ninety days.

Legal notice No. 96 of 2007 amended the investment guidelines to allow investment in Ugandan and Tanzanian equities as domestic equities. It also allowed schemes to invest in non-listed bonds and other instruments issued by private companies provided that the bond/instrument had been rated by a credit rating agency registered by the Capital Markets Authority. Mutuku (2007) submits that offshore investments are limited to bank deposits, government securities, quoted equities, rated corporate bonds and offshore collective investment schemes reflecting these assets. Further, investment in “any other asset” category requires prior approval of the RBA following application by the scheme.

Custodial agreement (section 10) provides that scheme trustees must appoint a custodian who must be registered with the RBA and that a duly signed contractual agreement should be submitted to RBA. Custodians provide safe custody of securities, financial instruments and documents of title to assets. They are required to settle all transactions in accordance with the instructions received from the manager, receive and credit RBS accounts with dividend, interest and other income due to them, and provide accurate and timely reports to trustees and the RBA on holdings and transactions as they relate to the various schemes.

Section 28(I) deals with annual audited accounts and provides that a scheme must keep proper books of account and records and prepare annual audited statements in the prescribed format. Section 31 provides for actuarial valuation and states that trustees must submit an Actuarial valuation/review/certificate to the RBA. The actuarial report

determines the solvency of a RBS given According to this section, Actuaries are expected to provide advice on the schedule of contributions, pension formula, benefits to be paid out whenever a member leaves and approve the design of new schemes.

Chirchir (2007) argues that adherence to regulator's investment policies is expected to lead to improved financial performance in the following ways. First, it reduces conflict of interests arising between the fund sponsors and the ultimate beneficiaries of the fund. Impositions of limits on self-investments protect the scheme from undue exposure and bankruptcy of the sponsors. The larger the pension funds than the sponsor's fund the more vulnerable the scheme to interference. Recent phenomenon experienced in the recent past illustrates the need for quantitative restrictions on investment of pension funds. Studebaker Corporation scandal, Maxwell Scandal and the more recent Enron debacle led to loss of pension funds. In the three cases, employers (sponsors) secretly diverted pension funds to bail themselves out of falling profits. Unfortunately, they collapsed inflicting double tragedy to the employees –loss of their jobs and their life time savings.

The collapse of Enron has resulted in a public debate regarding the rationale behind investing in company's own stock. The Enron-case showed that employees carry the risk of these investments. Meulbroek (2002) studied company stock investments in defined contribution pension plans. Some of her ideas can be applied to defined benefit plans as well. Meulbroek states that investing in the sponsor's stock is inefficient for all

stakeholders, because the pension fund carries a firm-specific risk, which could be diversified away. Also Even and Macpherson, (2004) state that investing pension assets in a single stock (i.e. sponsor) is contrary to basic diversification and therefore, a pension fund that holds sponsor's stock can provide the same rate of return as diversified portfolio but it is increasing the risk borne by its members. Pension funds, therefore, require a set of internal statutes and external regulations to ensure that they are managed in the best interest of beneficiaries. Pension funds, therefore, require a set of internal statutes and external regulations to ensure that they are managed in the best interest of beneficiaries.

Secondly, these regulations help in fixing problems in the pension industry. Stringent regulations are sometimes required to fix problems in a sector that is chaotic, non-performing and where stakeholders have lost faith and confidence in. Once order and direction is restored, the rules can be relaxed. For example, according to the Journal of pension economics as quoted in Chirchir (2007), the pension reform in Chile was implemented with excessive regulation in an effort to redeem the industry that was plagued with under funding. Eighteen years after, much success measured by labor force participation, pension fund assets, and benefits growth has been realised. Today, more than 95 percent of Chilean workers have their own pension savings accounts; assets have grown to over \$34 billion, or about 42 percent of gross domestic product. Now that the system has matured, beneficiaries understand their pension obligation and rights and fund managers are experienced, Chile is contemplating relaxing the pension regulations.

Thirdly, lack of experience and expertise on investment in particular of managing risks, leads to poor portfolio decisions and therefore, quantitative restrictions tend to act as guidance until experience is gained, (Chirchir 2007). Trustees may have had little or no contact with the financial services and providers; and may also not be knowledgeable and aware of their investments mandate. They may thus engage in investments strategies that are not in the interest of the fund. Fund managers too may lack the expertise to engage in diversification strategies by themselves.

#### **1.1.4 Pension Industry in Kenya**

In Kenya, the pension industry is regulated by the Retirement Benefits Authority, a body established by an Act of Parliament. According to Chirchir (2007), until 1997, the pension industry in Kenya was by and large unregulated. The few regulations relevant to retirement benefits were in the Income Tax Act and the Trustees Act governing the industry. There were no specific regulations on investments, other than that exempting all those schemes registered with income tax from the withholding tax imposed on investment income.

In 1997, the government enacted the Retirement Benefits Act and in 2000, approved the Retirement Benefits Regulation as new legislations to govern the entire management and administration of the pension industry. The industry regulations were gazetted to come into effect in October 2001. It is through this Act that investment guidelines of pension funds were drawn and subsequently came into force. By and large, the RBA Act was

enacted with five major objectives. Firstly, to regulate & supervise the management of retirement benefits schemes. Secondly, to protect the interests of members and sponsors of pension schemes. Thirdly, to promote the development of the retirement benefit sector, fourthly to advise the Minister on the national policy and to implement Government policies and fifthly to perform such other functions as are conferred by the Act (Kiptanui, 2003).

It's expected that pension schemes that comply with RBA investment guidelines will benefit from better financial performance in form of high share dividends, interests on debentures and bank loans and more shares in companies which are quoted at the Stock Exchange as well as benefit from diversification.

## **1.2 Research Problem**

Prior to the introduction of the Retirement Benefits Act, Pension funds were not prudently invested, Chirchir (2007). For example, funds were invested in a disproportionate portfolio mix of assets which were unprofessionally selected. Thus there was little diversification leading to exposure of schemes. Trustees did not have the necessary know how of selecting assets. This meant that members were denied growth of their funds as the schemes did not attain optimal returns on their investments. It also further meant that that value of funds was not preserved. It became apparent that government's intervention was needed.

Since the inception of RBA, pension schemes have either restructured their investment portfolio or re-assessed their investment returns to be compliant with the Act. The Act required the pension schemes to meet various mandatory requirements aimed at ensuring high and secure retirement incomes for the members, Rono, Bitok and Asamoah (2010).

Investment guidelines in the rules sought to ensure that schemes diversified their risk by reducing the extreme reliance on real estate investments. This was done by the establishment of guidelines on the maximum proportions of the scheme funds that were to be invested as prescribed in *regulation 38*. Specifically a limit of 30% on immovable property was set. Most scheme stakeholders consider the limits an important introduction by the regulatory authority since many schemes had earlier concentrated on the acquisition of real estate at prices that were far too high and therefore without the possibility of making returns for the scheme members.

However, according to the Institute of Economic Affairs, considering the issue of the investment guidelines and the limits that it places on instruments, some consider that those limits were set too conservatively. Their problems with the guidelines relate to the limits set for other instruments such as corporate debt in Kenya. In prescribing the maximum that a scheme may devote to corporate bonds at 15%, these stakeholders feel that the regulations may constrain the development of capital markets on corporate bonds. Many feel that the regulations should have allowed for a far higher limit to enable

schemes to take advantage of this underdeveloped market. This study will seek to establish whether this limitation has affected pension schemes negatively or positively.

Asset allocation is a key determinant of returns for pension schemes. In the UK Blake, Lehmann, and Timmermann, (1999) examined the asset allocations of a sample of 364 UK occupational pension funds who retained the same fund manager over the period 1986-1994. They found that the total return was dominated by asset allocation.

Kenyan studies on pension funds performance include Mutua (2003) who studied the extent of compliance with the retirement benefits Act by retirement benefits schemes in Kenya. The objectives of her study included finding out the extent of compliance, identifying difficulties faced by schemes that had not fully complied and finding out the relationship between the extent of compliance with all the Retirement Benefits Act requirements and the financial performance of pension schemes. Financial performance in the study was measured by the changes in fund values. Thus the study differs from the current one in the measurement of the compliance variable. Since the schemes have ninety days to rebalance their portfolios where they are out of line, it will be assumed that all funds were compliant and the research will compare changes in fund values before and after implementation of the investment guidelines.

The study, therefore, seeks to fill the knowledge gap on the effect of the investment guidelines on financial performance in the Kenyan pension industry. In particular, the



study is in furtherance to the suggestion by Mutua (2003) for further research to establish the impact of investment guidelines table on the financial performance of RBS. The question is: what is the relationship between the investment guidelines and financial performance of RBS?

### **1.3 Objectives of the Study**

The objectives of the study are to establish the relationship between adherence to retirement benefits authority investment guidelines and financial performance of pension schemes in Kenya.

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

The study is expected to provide useful insights to various categories of stakeholders. 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 systems and retirement benefits schemes are necessary for developing countries like Kenya not only to secure people's livelihoods after retirement, but also due to the fact that retirement schemes provide an avenue for mobilizing savings for long-term investments. This has led to increased prominence for the pension and retirement benefits industry since it serves the economy variously. This is by ensuring that individuals have savings that may be used to sustain their standards of living after retirement and in the process providing funds for development. The government would thus be interested in knowing how well the sector is doing financially as this has implications on the overall

performance of the economy. Furthermore, RBA and the government would be interested to know if the findings of the study justify the efforts and the resources put into regulating the sector.

The data and information availed by the study could be of significance to academicians and professional service providers i.e. people and firms that provide advisory and consultancy services to RBS and the RBA. This study may enable them to conduct further research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter will review some of the risk-adjusted performance measures and an accounting ratio that is used in some OECD countries to measure financial performance of pension schemes. Theories that are expected to guide the study will also be reviewed. A review of the general regulatory framework surrounding pension schemes in Kenya will be done with emphasis on the investment guidelines for pension schemes as specified by the Retirement Benefits Act. Finally, empirical studies, both from Kenya and other countries will be reviewed.

#### **2.2 Theories Guiding the Study**

##### **2.2.1 The Theory of Economic Regulation**

The theory of economic regulation was proposed by George Stigler in 1971. Stigler (1971) observed that the government, with its machinery and power, was a potential resource or threat to every industry in the society. The most important element of the theory of economic regulation is its integration of the analysis of political behavior with the larger body of economic analysis, Peltzman (1976). This means that interest groups can influence the outcome of regulatory processes by providing financial or other support to politicians. The central task of the theory, as propagated by Stigler, is to explain who will receive the benefits or burdens of regulation, what form regulation will take and the

effects of regulation upon the allocation of resources. According to Stigler, there are two views of regulation that are widely held. First view is that regulations are instituted mainly to ensure protection and benefit of the public at large or a significant subclass of the public. Second view is that the political process defies rational explanation and that there are regulations that have a negative impact on the regulated industry.

The theory of regulation proposes four benefits that the state or the government can provide to an industry. The first benefit is a direct subsidy of money. However, an industry with power to obtain government favors will not usually use this power to get a direct subsidy of money. This is because unless the list of beneficiaries can be limited by an acceptable device, whatever amount of subsidy the industry can obtain will be shared among a growing number of rivals.

The second benefit the state can provide is control over entry by new rivals. There is considerable discussion in economic literature of the rise of peculiar price policies, vertical integration and similar devices to retard the rate of entry of new firms into oligopolistic industries. The general hypothesis given by the economists was that every industry or occupation that has enough political power would seek for control of entry.

The third benefit is the ability to affect substitutes and complementary products. An industry will seek to suppress the production of substitute products but seek to promote the production of goods that are complimentary to its own products. The fourth benefit

that an industry would seek to derive is the ability to fix prices. Even the industry that has put in place barriers to entry will often want price controls administered by a body with coercive powers. If the number of firms in the regulated industry is even moderately large, price discrimination will be difficult to maintain in the absence of public support. Where there are no diseconomies of scale for the individual firm, price control is essential to achieve more than competitive rates of return.

However, these various political benefits are not obtained by the industry in a pure profit maximizing form. The regulation theory further notes that the political process erects certain limitations upon the exercise of cartel policies by an industry. First, the distribution of control of the industry among the firms in the industry is changed. In an unregulated industry, each firm's influence upon price and output is proportional to its share of industry output. Political decisions take account of the political strength of the various firms, so small firms have a larger influence than they would have in an unregulated industry. The second limitation is that procedural safeguards required of public processes are costly. The delays, which are dictated by both law and bureaucratic thoughts of self-preservation, can be large. Finally, the political process automatically admits powerful outsiders to the industry's council. In conclusion, Stigler emphasizes that these limitations upon political benefits are predictable and they must enter into the calculus of the profitability of regulation of an industry.

Posner (1974) defines economic regulation as government intervention in the market. He refers to economic regulation as taxes and subsidies of all sorts as well as explicit legislative and administrative controls over rates, entry, and other facets of economic activity. Two main theories of economic regulation have been proposed. One is the ‘public interest’ theory. It holds that regulation is supplied in response to the demand of the public for the correction of inefficient or inequitable market practices. The second theory is the ‘capture’ theory. This theory states that regulation is supplied in response to the demands of interest groups struggling among themselves to maximize the incomes of their members.

According to Posner, two assumptions seem to have typified thought about economic policy. One is that economic markets were extremely fragile and apt to operate inefficiently if left alone and the other was that government regulation was virtually costless. However, if this theory was correct, we would find regulation imposed mainly in highly concentrated industries (where the danger of monopoly is greatest) and in industries that generate substantial external costs or benefits, which is not the case.

### **2.2.2 Modern Portfolio Theory**

MPT is an overall investment strategy that seeks to construct an optimal portfolio by considering the relationship between risk and return (Correia et al., 2003). This theory is “...generally perceived as a body of models that describes how investors may balance risk and reward in constructing investment portfolios.” (Holton, 2004: p. 21) as quoted in

Wang (2008). MPT is otherwise known as portfolio management theory (Reilly, 1989). The main indicators used in MPT are the alpha and the beta of investment (Hobbs, 2001). Beta is a measurement of volatility of an asset or a portfolio relative to a selected benchmark, usually a market index. A beta of 1.0 indicates that the magnitude and direction of movements of returns for an asset or a portfolio are the same as those of the benchmark. A beta value greater than 1.0 indicates a higher volatility, and a beta value less than 1.0 indicates a lesser volatility when measured against the benchmark (Yao et al., 2002). Alpha calculates the difference between what the portfolio actually earned and what it was expected to earn given its level of systematic risk, beta value. A positive alpha indicates return of the asset or the portfolio exceeds the general market expectation. A negative alpha indicates return of the asset or the portfolio falls short of the general market expectation (Yao et al., 2002).

According to Wang (2008), although the growth of MPT has been both normative and theoretical, there are some general issues associated with MPT (Compass Financial Planner Pty Ltd., 2007). One, volatility is a measure of risk in a historical period. One relies heavily on historical data when attempting to predict the future. It can also be understood as a measure of uncertainty that quantifies how much a series of investment returns varies around its mean or average. Volatility is represented by standard deviation (Yao et al., 2002). 2) Second, one should not put too much faith in an “efficient” portfolio performing well if world markets become unstable for a little while (Harvey et al, 2000). A study done by Merrill Lynch in 1979 showed that a typical diversified investment

portfolio eliminates so much of the specific risk, that roughly 90 percent of all the portfolio risk is market risk, therefore if market is unstable, an investor should not be disappointed if the portfolio is not performing (Derby Financial Group, 2008).

Further to the issues that are associated with MPT, the implementations of this theory have also been limited. The three major reasons for the limited implementation of MPT are (Elton et al., 1976: p. 1341) the difficulty in estimating and identifying the type of data necessary for correlation matrices, the time and expenses needed for generating efficient portfolios i.e. the costs associated with solving a quadratic programming problem (the input data requirements are voluminous for portfolios of a practical size (Renwick, 1969)) and finally the difficulty in educating portfolio managers to express the risk-return trade-off in terms of co-variances, returns and standard deviations (Renwick, 1969).

### **2.2.3 Efficient Market Hypothesis**

This hypothesis is relevant to the study in relation to how the investment portfolios of investment schemes are managed. The results of the study will help understand whether these investments should be regulated or whether investment managers were more efficient before the guidelines came into effect. An efficient market is assumed for the concept of passive management approach (Hobbs, 2001). The “Efficient market hypothesis (EMH) is the set of arguments leading to the assertion that market prices fully



reflect available information.” (Tucker et al., 1994: p.580) as quoted in Wang (2008).  
EMH is a set of implications that are associated with each different form of the market.

There are three forms of the EMH. One is the weak form which assumes that current security prices fully reflect all security market information, including the historical sequence of prices, price changes, trading volume and any other market information such as odd lot transactions (Reilly, 1989). Therefore, technical analysis is of no use when attempting to outperform the market; it is merely an approach that is used in the hope of predicting future trends (Hobbs, 2001). Yet, this form of the EMH suggests that future security prices cannot be predicted by the use of historical prices, this means that future cannot be predicted by using historical data, that further suggests that whatever happened in the past is unlikely to happen in the future, thus stock prices behave according to a random walk (Malkiel, 1999).

The second form of EMH is the semi-strong one which asserts that security prices adjust rapidly to the release of all new public information; thus security prices fully reflect all public information (Cuthbertson et al., 2004). Thus, fundamental analysis is of no use in outperforming the market, instead it is used in the hope of identifying new information (Correria et al., 2003).

Finally, the strong-form of the EMH contends that security prices fully reflect all information, whether it might be public or private (Reilly, 1989). In other words, not even insider information can be used in the quest to outperform the market.

### **2.3 Determinants of Financial Performance of Pension Schemes**

Investment returns is one of several factors that will determine the performance of pension funds to provide retirement income to their members and ability to deliver adequate future pension. Prudent investment demands a diversified portfolio which often includes a mix of equity investments, fixed-income securities (corporate or government) and cash deposits. Therefore, asset allocation will influence the investment returns. There may be differences in assets allocation for the different types of schemes and these can be partly explained in defined benefit occupational plans by the liability structure, whereas in defined contribution personal plans the differences are justified mainly by the investment regulations in each country, Tapia (2008). Adherence to government quantitative restrictions especially in countries that do not have well developed capital markets, enough expertise to handle complex investments and a population that has investment experience who can audit fund managers is expected to increase investment returns. For instance, restrictions in foreign denominated assets are geared towards limiting losses in the wake of global financial turmoil in international financial markets.

Administrative costs and investment management fees that need to be paid for scheme running are another determinant of financial performance. Administrative costs are

important, with very different costs for different types of scheme. According to Barr (2006), the First Report of the Pensions Commission shows that individual accounts tend to have higher charges and occupational schemes lower charges and that state schemes are generally the cheapest to run. The unweighted mean annual management charge for personal pensions in the UK is about 1 per cent of a person's pension accumulation. Under plausible assumptions, a charge of 1 per cent over a working life will reduce the accumulation by about 20 per cent (Diamond, 2004, p.3) as quoted in (Barr 2006), that is, a person's pension will be 20 per cent lower than otherwise for each 1 per cent of administrative charge. Clearly, a major issue for policy makers is the way in which pensions generally, and charges in particular, are regulated, a central issue in Nugée and Persaud (2006), as quoted in Barr (2006).

Various countries have designed a variety of mechanisms to reduce costs, including the imposition of caps on fees (Central and Eastern European countries), centralization of collections and the use of blind accounts (Latvia and Sweden), lotteries that allocate new contributors among funds (Chile and Poland), and paperless transactions in Estonia (Hlavac 2011). Collective pension arrangements established by employers and employee associations can also be an effective way to keep costs low, especially when the funds established achieve sufficient scale e.g. as in Netherlands, Denmark, and Iceland.

Density of contributions is also an important factor that has affected the pension benefits in countries with large informal sectors. This is the extent to which people make regular

contributions, Barr (2006). According to Arenas (2005) as quoted in Hlavac (2011), the density of contributions in Latin American countries is only about 50 percent. Individuals with a low density of contributions are likely to face low accumulated assets at retirement age, and therefore are likely to have low retirement incomes. Arenas and Lago (2006) report an average deficit in Chile of between 1981 and 2004 of 5.7% of GDP, projected to continue at about 5% of GDP for the period 2005-2010. The deficit is caused by the fiscal cost of transition; and that cost is increased because policy makers over-estimated contribution density and hence underestimated the costs of the pension guarantee and the social assistance pension. Similar problems arise in other countries for similar reasons.

The retirement age is also an important factor that affects the performance of pension funds. Because the accumulation period is shorter in countries that allow individuals to retire earlier, individuals are likely to receive lower retirement income. As a consequence, governments in some countries have been raising the official retirement age or have introduced incentives to delay retirement. For example, the UK Pensions Commission (2005) suggests that state pensionable age in the UK, currently 65, should rise after 2020 by about one year every decade reaching 68 or 69 by 2050. The capacity of funded individual account systems to deliver retirement income will be further challenged in this respect as life expectancy continues to increase in virtually all countries.

According to Chirchir (2007), of all the above, the demographic profile of the fund influences the investment portfolio of any one scheme the most. The demographic relief describes the age of the scheme as young, middle and the retired age set groups. Asset allocation in each set group is different because of the time horizon that automatically determines the liabilities levels hence the investments are made to match the assets and the liabilities.

## **2.4 Empirical Studies**

### **2.4.1 Empirical Studies in Kenya**

Mutua (2003) studied the extent of compliance with the retirement benefits Act by retirement benefits schemes in Kenya. The objectives of her study included finding out the extent of compliance, identifying difficulties faced by schemes that had not fully complied and finding out the relationship between the extent of compliance and the financial performance of pension schemes. She used fund values for the years ending years 2000 and 2001 to measure the financial performance of schemes. She analysed these against compliance parameters including extent of submission of amended trust deeds and rules, submission of investment management agreement, custodial services agreement, annual audited accounts and actuarial report. Findings from her study indicated that the relationship between the extent of compliance and financial performance was positive but weak.

Kusewa (2007) studied the impact of regulation of the retirement benefits sector on the financial performance of occupational pension schemes in Kenya. Her research sought to establish if the findings by Mutua (2003) with regard to financial performance of retirement benefits schemes still held. The study covered a longer period i.e. five years before and five years after the enactment of the regulations in year 2000. In her study, the indicators of financial performance used were the total contributions from members for the year and fund values at year end. According to the study, increase in total contributions is influenced by the number of members in the scheme, the member's pay (where the pension is a proportion of the salary) and the additional voluntary contributions made by members. The fund value at the end of the year is the balance of total contributions and investment income net of the withdrawal benefits and other expenses. This is what is reinvested in the scheme to give a return to members. The fund value, therefore, gives an indication of the size of the scheme in terms of its assets value. The average annual percentage increase in the size of the fund was used as an indicator of financial performance. The results of her study indicate that financial performance of retirement benefits schemes was better in the period under which regulations have been in place.

Wanyama (2001) studied the implications of investment guidelines under Retirement Benefits Act (1997) and Regulations 2000 on the pension schemes and provident funds investment portfolios in Kenya. The results of the study suggested that some schemes had to take several measures in order to comply with the new guidelines or risk penalties

from the RBA. Some of those measures included terminating fixed deposits prematurely and thus losing interest in order to comply. His research was based on finding out the levels of investment in the prescribed asset classes by the sampled pension schemes and comparing this to the prescribed limits.

Rono, Bitok and Asamoah (2010) studied the impact of the RBA act on investment returns to pension funds in Kenya. Their study determined that the annual return for RBS in the previous three years ranged from ten percent to twenty seven percent, sometimes falling below the annual inflation rate. They established that Kenyan pension funds were in compliance with the regulations requiring that they maintain solvency of 80% and above. They established that the overall weighted returns before the implementation of the RBA guidelines was low (average scale of 1.9) as compared to after (average scale of 3.7). From their research, an analysis of the trend, however, showed that long-run performance had slowed down and that there was need for the country to adopt a unified, harmonized and transparent regulatory framework that will integrate the pension system in order to ensure sustainability in funding and mobilize adequate funds to cater for the increasing population of beneficiaries. They suggested the formation of a pension risk insurance fund as well as systematic indexation of pension benefits to inflation in order to protect pension funds from inflationary risks.

### **2.4.2 Empirical Studies in Other Countries**

Alestalo and Puttonen (2005) studied asset allocation in Finnish pension funds. Their paper empirically examined the strategic asset allocation and the asset/liability issues in the Finnish defined benefit pension funds. The results indicated that there was a relationship between the liability structure and the asset allocation. While pension funds with younger participants had more equity exposure, more mature pension funds had more fixed income investments. Wide dispersion in asset allocations was also found between the funds. One fund held its entire portfolio in fixed income securities whereas other funds had none or only few fixed income holdings. Equity investments also varied dramatically, ranging from 0 percent to over 70 percent of the asset allocation. The same applied to investments in a sponsor, real estate investment and money market investments. In their data analysis, they found that a portion of these different asset allocations was explained by the liability structure, but another part remained unexplained.

The other variables affecting strategic asset allocation of a pension fund were not obvious and they could include factors such as regulatory environment, historical reasons, mean-variance optimization instead of ALM, sponsor's own preferences or pension fund's irrationality. Since asset allocation influences investment returns, the effect of the regulatory environment on financial performance is the subject of the current study.



In the UK Blake, Lehmann, and Timmermann (1999) examined the asset allocations of a sample of 306 UK occupational pension funds who retained the same, externally appointed fund manager over the period 1986-1994. They used nine years of monthly information on the holdings in eight asset classes of the pension funds. According to their study, the UK pension fund managers faced the smallest set of externally imposed restrictions and regulations on their investment behavior of any group of institutional investors anywhere in the world. They were free to invest in any asset class, in any currency denomination and in any amount although they faced trustee resistance to the use of derivatives in the early part of the period. The UK fund managers also did not face any substantive regulatory controls or real threat of litigation over imprudent behavior over the period of the study. This general absence of constraints on investment behavior enabled the researchers to identify the genuine investment skills of the group of fund managers.

In their study, for each asset class, each fund reported initial market value and net investment, the mean (time-weighted) asset value, income received and returns over the month. They found that the total return was dominated by asset allocation i.e. there was a slow mean reversion in the funds' portfolio weight towards a common, time-varying strategic allocation.

Hlavac (2011) focused on the comparison of financial performance of the Czech voluntary private pension scheme with five other reformed private pension schemes in

the region of Central Eastern Europe i.e. Bulgaria, Croatia, Hungary, Poland and Slovak Republic. Using periodic scheme returns covering the last ten years, he estimated the schemes Sharpe ratios for four reference benchmarks i.e. returns on the local 3-month Treasury bills, returns on the local 10-year government bonds, returns on the German 3-month Treasury bills and returns on the German 10-year government bonds.

The findings suggested that except for Poland none of the schemes managed to beat its long-term domestic benchmark (10-year government bonds) as the Sharpe ratios estimates turn out to be negative. The highest underperformance was found in the case of the Czech Republic. Such poor results were assigned to the presence of restrictive annual minimum return guarantees and ineffective legislation arranging the PF costs allocation.

Tapia (2008a) gathered data for 23 OECD countries over the period 2000-2005, and he also did not find a clear connection between the real returns of the scheme and the standard deviation of these returns. However, he points out that most of the countries experienced the low levels of returns with the relatively low levels of volatility.

## **2.5 Summary of Literature Review**

The pension fund investment guidelines were formulated with the aim of solving the problems that the pension sector has faced in the past (Mutua, 2003). These include unfunded schemes especially in the public sector. Odundo E, Njoroge S, Mutuku N & Chirchir N. (2002) state that this arrangement where retirement benefits are paid out of

recurrent cash flows places extreme pressure on a firm's financial position and eventually it may be unable to meet its obligations to retirees.

The other major problem was poor investments whereby funds were placed in low yielding and poorly diversified schemes resulting in poor returns and inability to even meet the scheme administration costs. (Daily nation 06/05/2002 p.15 as quoted in Mutua, 2003). It is thus expected that adherence to the RBA investment guidelines will boost the financial performance of the various pension funds in Kenya.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This section looks at the way the research process was carried out. It includes a discussion on research design, the population, the sample and sampling methods, data collection methods, measures of variables and data analysis.

#### **3.2 Research Design**

This is the methodical investigation into a subject in order to discover facts, to establish or revise a theory, or to develop a plan of action based on the facts discovered to make a detailed plan of the form or structure of something, emphasizing features such as its appearance, convenience, and efficient functioning. A multiple regression model design was adopted to establish the relationship between seven independent variables and the dependent variable.

#### **3.3 Population of the study**

Population target is a group of individuals or items that share one or more characteristics from which data can be gathered and analyzed. The population was 1188 being the number of occupational retirement benefits schemes registered with the RBA in Kenya as at October 2013. This information was obtained from the RBA website. A random sample of 28 RBS was selected for the purpose of this study.

### **3.4 Sampling Technique**

Systematic random sampling was used to pick a sample of 28 RBS from the above population.

### **3.5 Data Collection**

Data collection methods are ways of getting information, often in the form of facts or figures obtained from experiments or surveys, used as a basis for making calculations or drawing conclusions. The data used consists of secondary data which was collected from the RBA. The data was collected for the period 2006 to 2013.

### **3.6 Data Analysis and the Research Model**

Data analysis is the examination of something in detail in order to understand it better or draw conclusions from it which in this case was the data that was collected. Data collected was stored in spread sheet where different operations were conducted. The presentation of the data was through summary statistics.

A multiple regression model was used to analyze the data to further explain potential differences or similarities between samples by analyzing the following independent variables: cash and demand deposits, fixed deposits and time deposits, commercial paper and corporate bonds, government securities, preference and ordinary shares, immovable property and guaranteed funds. The independent variables were measured by comparing the returns of each of the independent variable in seven years. The dependent variable

was measured by adding up the returns of the independent variables. A comparison in returns of the portfolio was done on similar schemes in terms of fund value which have invested in property and the schemes which have not invested in property. The researcher used a seven year period trend. The researcher adapted a multiple regression model. This was done through statistical package for social sciences version (SPSS 17). The “grouping variable” was the return on investment for ten asset classes for the twenty eight pension funds while the “testing variable” was the financial performance.

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + \alpha_6 X_6 + \alpha_7 X_7 + \alpha_8 X_8 + \alpha_9 X_9 + \alpha_{10} X_{10} + \varepsilon$$

Y=Financial Performance

X1= Property,

X2 = Government securities,

X3= Quoted equity,

X4 = Unquoted equity,

X5 = Commercial paper,

X6 = Fixed and time deposits,

X7 = Cash and demand deposits

X8 = Offshore investments

X9 = Guaranteed investments

X10 = Others

### **3.7 Test of Statistical Significance**

The study will use t-statistics and p –value to test if the coefficient of the explanatory variables is statistically significant in causing a variation in the dependent variable. P value greater than 0.05 ( $P > 0.05$ ) implies that the variable is statistically insignificant. However, p value less than 0.05 ( $p < 0.05$ ) indicates that the variable in question is significant in explaining the variation the dependent variable.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents the results found from the data analysis. It therefore consists of the data analysis presentation and interpretation of findings. The objective of this study was to evaluate the relationship between retirement benefits authority investments guidelines and financial performance of pension schemes in Kenya.

#### **4.2 Descriptive Statistics**

The data collected was used to compute the mean of Cash and demand Deposits, Fixed deposits and Time Deposits, Commercial Paper and Corporate Bonds, Government Securities, Preference and Ordinary Shares of Quoted Companies, Immovable Properties, Guaranteed funds and offshore investments in bank deposits, Unquoted Equity, Other Investments and Financial performance of retirement benefit schemes.

Table 4.1 shows that the mean value for cash and demand deposits was 23.46 million shillings, fixed deposit and time deposit has a mean of 117 million, commercial papers and corporate bonds was 81.835 million, government securities was 1.350 billion shillings, Preference and Ordinary Shares of Quoted Companies was 905.4 million, Immovable Properties was 654.8 million, Guaranteed funds 1.4 million shillings, offshore



investments 33.9 million shillings while for other investments it is 28.28 million shillings.

**Table 4.1: Descriptive Statistics and Distribution of Variables**

Million SHS.	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
MAXIMUM	4570	5460.1	4168	231.3	398.14	607.3	267.4	1019	27.68	637.81
MINIMUM	0	0	0	0	0	0	0	0	0	0
MEAN	654.8	1350.4	905.4	11.92	81.835	117	23.46	223.9	1.4082	28.28
MEDIAN	227.4	549.14	210.7	0	24.471	30.08	0	33.91	0	0.0089
STD DEV.	965.6	1687.3	1179	44.09	102.75	170.8	64.21	354	5.6069	120.85

**Source: Research data**

Where investments in each class are:

X1= Property,

X2 = Government securities,

X3= Quoted equity,

X4 = Unquoted equity,

X5 = Commercial paper,

X6 = Fixed and time deposits,

X7 = Cash and demand deposits

X8 = Offshore investments

X9 = Guaranteed investments

X10 = Others

### **4.3 Inferential Analysis**

The study conducted inferential analysis using Pearson correlation coefficient, ANOVA and regression analysis. ANOVA was used to test the hypothesis that the means among independent (factors) and dependent variables (financial performance) are equal, therefore shows the significance of the association between the two. Correlation coefficient was used to test linear dependence (association) between financial performance and the individual independent variables. Regression analysis was used to measure the relationship between individual independent variables and the dependent variable when they act together. The regression analysis will be of the form:

### **4.4 Correlation Results**

The study sought to establish the association between individual independent variables and financial performance of the same within the period (2003 – 2008). Pearson correlation coefficients were used to test the hypothesis for the study. The result is presented in table 4.3 below:

**Table 4.2: Correlation Matrix**

	Y	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
Y	1.000										
X1	0.732	1.000									
X2	0.938	0.598	1.000								
X3	0.682	0.565	0.753	1.000							
X4	-0.141	-0.071	-0.152	-0.112	1.000						
X5	0.755	0.567	0.741	0.827	-0.119	1.000					
X6	0.563	0.527	0.649	0.723	-0.115	0.427	1.000				
X7	0.158	-0.011	0.278	0.285	-0.102	0.132	0.190	1.000			
X8	0.214	0.156	0.355	0.678	-0.057	0.480	0.313	0.457	1.000		
X9	-0.187	-0.154	-0.184	-0.180	-0.068	-0.176	-0.169	-0.095	-0.147	1.000	
X10	0.231	0.145	0.107	0.245	0.087	0.582	-0.029	-0.078	-0.107	-0.061	1.000

**Source: Research data**

Where the investments in each asset class is by the following symbols:

Y=Financial Performance

X1= Property,

X2 = Government securities,

X3= Quoted equity,

X4 = Unquoted equity,

X5 = Commercial paper,

X6 = Fixed and time deposits,

X7 = Cash and demand deposits

X8 = Offshore investments

X9 = Guaranteed investments

X10 = Others

The results show that there is a low but positive relationship between financial performance and Cash and demand Deposits (0.158). There is a high positive correlation between financial performance and fixed deposits and Time Deposits (0.563), between financial performance and Commercial Paper and Corporate Bonds (0.755), positive correlation between Government Securities and financial performance (0.938), positive correlation between Preference and Ordinary Shares of Quoted Companies and financial performance (0.682), positive correlation between financial performance Immovable Properties (0.732), and Other investments (0.231). However, there is a negative correlation between financial performance and Guaranteed funds (-0.187) and unquoted equity (-0.141).

## **4.5 Regression Analysis**

The study sought to determine the goodness of fit for the regression analysis using the correlation coefficient between the overall independent variables and financial performance of RBA after the guidelines and the coefficient of determination from the same. Coefficient of determination established the strength of the relationship between the dependent and independent variables.

### **4.5.1 Model Summary**

Determination coefficients ( $R^2$ ) were also carried out to determine the strength of the relationship between independent and dependent variables. The study established  $R^2$  of 0.955.  $R^2$  of 0.955 indicates that 95.50% of the variation in financial performance is

caused by the changes adherence to retirement benefits authority investments guidelines. The Durbin-Watson test statistic tests the null hypothesis that the residuals from an ordinary least-squares regression are not auto correlated. The Durbin-Watson statistic ranges in value from 0 to 4. A value near 2 indicates non-autocorrelation; a value toward 0 indicates positive autocorrelation; a value toward 4 indicates negative autocorrelation. Since the DW value of 1.8992 was close to 2, then it can be concluded that there was no autocorrelation among the model residual.

**Table 4.3 Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.977	0.955	0.928	86.39

**Source: Research data**

#### 4.5.2 ANOVA

The study used ANOVA statistics to establish the significance of the relationship between financial performance and the explanatory variables. The regression model is significant given the level of significance 0.033 ( $p = .025$ ) which is below 0.05, therefore there is statistical significant difference between the means of the dependent and explanatory variables. The model is therefore fit for estimation.

**Table 4.4. Analysis of Variance (ANOVA)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.680	10	0.268	35.910	.000(a)
	Residual	0.127	28	0.007		
	Total	2.807	38			

**Source: Research data**

### 4.5.3 Coefficients

From the finding of the study in the above table, the following regression equations were established by the study:

**Table 4.5: coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	15.99	26.43		0.605	0.553
X1	0.094	0.025	0.282	3.732	0.002
X2	0.176	0.027	0.920	6.395	0.000
X3	-0.008	0.051	-0.028	-0.150	0.883
X4	-0.170	0.406	-0.023	-0.418	0.681
X5	-0.221	0.753	-0.070	-0.293	0.773
X6	-0.215	0.199	-0.114	-1.084	0.294
X7	-0.146	0.349	-0.029	-0.418	0.681
X8	-0.040	0.115	-0.044	-0.348	0.732
X9	-0.834	3.072	-0.015	-0.272	0.789
X10	0.347	0.351	0.130	0.988	0.337

**Source: Research data**

- a. Dependent Variable: Financial performance
- b. Cash and Demand deposits, Fixed and time deposits, Corporate Bonds, Government securities, Shares, Immovable Property, Offshore Investments.

The estimated result becomes:

$$FP = 15.99 + 0.094X1 + 0.176X2 - 0.008X3 - 0.170X4 - 0.221X5 - 0.215X6 - 0.146X7 - 0.040X8 - 0.834X9 + 0.347X10$$

## **4.6 Discussion of Research Findings**

The estimated model indicates that RBA will realize an average financial performance of 15.99 units if the investment guidelines are not observed by the pension schemes in Kenya. Cash and demand deposits have positive relationship with financial performance of pension schemes. A unit increase in cash and deposits as investments guidelines will lead to 0.146 units decrease in the financial performance of pension schemes. A unit increase in fixed deposit and times deposits as investment guidelines will lead to 0.215 units decrease in the profitability of pension schemes. A unit increase in commercial paper and corporate bonds will lead to 0.221 units decrease in profitability of the pension schemes. The Research data indicates a negative relationship between preference and ordinary shares of quoted companies with financial performance of pension schemes. A unit increase in preference and ordinary shares of quoted companies will lead to 0.008 units decrease in financial performance of pension schemes.

Investment in Government securities will lead to an increase in the profitability of financial performance of pension schemes. A unit increase in immovable properties by pension funds will lead to 0.094 units increase in financial performance of pension schemes. A unit increase in guaranteed funds and offshore investments in bank deposits will lead to 0.834 units decrease in the profitability of pension schemes.

The results are a contrast to the investment appetite for the public pension scheme in Kenya i.e. the NSSF which has heavily invested in the real estate sector and has plans to

further increase their property portfolio. Investment in property yields 0.094 per every unit invested while there are more profitable classes of investment such as investment in government securities which has a yield of 0.176 for every unit invested.

This findings were in line with Mutuku (2007) who by submitting that offshore investments are limited to bank deposits, government securities, quoted equities, rated corporate bonds and offshore collective investment schemes reflecting these assets, Further established that investment in “any other asset” category requires prior approval of the RBA following application by the scheme. The study finding is similar Blake, Lehmann, and Timmermann, (1999) who examined the asset allocations of a sample of 306 UK occupational pension funds who retained the same, externally appointed fund manager over the period 1986-1994. According to their study, the UK pension fund managers faced the smallest set of externally imposed restrictions and regulations on their investment behavior of any group of institutional investors anywhere in the world. They were free to invest in any asset class, in any currency denomination and in any amount although they faced trustee resistance to the use of derivatives in the early part of the period. The UK fund managers also did not face any substantive regulatory controls or real threat of litigation over imprudent behavior over the period of the study.



## **CHAPTER FIVE**

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

#### **5.1 Introduction**

This chapter concludes this research study. It presents the findings, recommendations and conclusions. It briefly discusses Research data which are based on the objective of determining the relationship between the RBA investment guidelines and financial performance of pension schemes in Kenya. It further highlights the limitations of the study and finally suggests recommendations for practical and further research.

#### **5.2 Summary of Research Findings**

The research discusses the relationship between investment guidelines and financial performance of RBS in Kenya. The RBA introduced the investment guidelines in the year 2001 to guide the investments of RBS to ensure that they are well diversified to manage risk exposure to various investments. RBS are allowed temporary deviations from guidelines but this must be corrected within 90 days and therefore compliance was assumed for all RBS for the period after the guidelines came into effect. The aim of the study was to establish if the investment guidelines had a positive impact on the financial performance of pension schemes in Kenya.

Even and Macpherson, (2004) state that investing pension assets in a single stock (i.e. sponsor) is contrary to basic diversification and therefore, a pension fund that holds

sponsor's stock can provide the same rate of return as diversified portfolio but it is increasing the risk borne by its members. Pension funds, therefore, require a set of internal statutes and external regulations to ensure that they are managed in the best interest of beneficiaries. Pension funds, therefore, should have a set of internal statutes and external regulations to ensure that they are managed in the best interest of beneficiaries.

The study also established that cash and demand deposits positively influence the financial performance of pension schemes in Kenya. Fixed deposits and times deposits have positive impact on the profitability of pension schemes. The study findings also revealed that increase in the application of commercial paper and corporate bonds as guidelines positively affect the financial performance of pension schemes. Increase in preference and ordinary shares of quoted companies increases the profitability of pension schemes. The study also established that immovable properties and guaranteed funds and offshore investments in bank deposits positively impacts on the profitability of the pension schemes.

### **5.3 Conclusion**

From the findings, there was a positive relationship on the introduction of investment guidelines by the RBA on the financial performance of RBS. RBA should enforce guidelines that promote fixed deposits for pension schemes. Fixed deposits increase capital base for investments which generates more revenue for the members. Retirement

benefit authority should buy preference and ordinary shares of quoted companies as a way of diversification in investments.

From the study findings adherence to regulator's investment policies lead to improved financial performance by reducing conflict of interests arising between the fund sponsors and the ultimate beneficiaries of the fund. Impositions of limits on self-investments protected the scheme from undue exposure and bankruptcy of the sponsors. The larger the pension funds than the sponsor's fund the more vulnerable the scheme to interference. Investing in the sponsor's stock is inefficient for all stakeholders, because the pension fund carries a firm-specific risk, which could be diversified away.

#### **5.4 Recommendations**

As the RBS regulator, the RBA should publish comprehensive industry statistics on a regular basis. This will empower the public with information on the retirement industry performance and thus facilitate making of informed decisions with regards to choosing which RBS to join. It will also make it easier for scholars conducting research on the industry to get the necessary data. Financial performance would also improve as fund managers would strive to outperform their peers.

The RBA should strengthen the compliance department and ensure more compliance with its regulations particularly the investment guidelines. This is because a number of

schemes are not in compliant and this could expose pensioners' funds to inflationary risks and financial losses.

The RBA should also partner with local institutions of higher learning especially post-graduate business schools and faculty in order to facilitate quality research into the issues affecting the financial performance of the pension industry in Kenya. For example, how the investment guidelines as expressed in the asset classes relate to an optimal asset allocation. This is by facilitating collection of data on financial performance before the year 2000 when the guidelines came into effect and comparing this to performance after.

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

The researcher experienced a number of constraints while undertaking the research. The major limitation was that fund managers were unwilling to provide data required for the study. This was however obtained from the RBA. Getting data for the period before the year 2000 was also very challenging since the RBA was not in place at that time. Lack of enough local literature on similar research was also a major challenge.

Most of the research literature on financial performance available was from European countries such as Britain and the Czech Republic and Latin America especially Chile. Local literature was mostly focused on measuring the level of compliance with the RBA guidelines and not the financial performance of RBS. Therefore, most of the studies did not have a local feel.

Complete data was not available for all the independent variables for all the years and thus the results could be distorted for the years when a particular asset class performed beyond the norm.

## **5.6 Suggestions for Further Research**

Further research is suggested on the effect of active fund management versus passive fund management on financial performance. This is by comparing financial performance of funds where fund managers invest in guaranteed schemes only versus those that pursue a diversification strategy.

Further research and investigation should also be carried out on why there is a negative relationship between financial performance and investment in government securities. The result might vary because different government regimes adopt different monetary and fiscal policies in terms of corporate management.

Future studies should be conducted to assess effectiveness of investment undertaken by the pension schemes and if such investments have positive impact on the financial status of the members of the scheme.

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## APPENDICES

**Appendix I: Table G**

Item	Asset category	Maximum % of Aggregate market value
1	Cash and Demand Deposits in institutions licensed under the Banking Act of the Republic of Kenya	5%
2	Fixed Deposits, Time Deposits and Certificates of Deposits in institutions licensed under the Banking Act of the Republic of Kenya	30%
3	Commercial Paper, Corporate Bonds, Mortgage Bonds and loan stocks approved by the Capital Markets Authority and collective investment schemes incorporated in Kenya and approved by the Capital Markets Authority reflecting this category	15%
4	Kenya Government Securities and collective investment schemes incorporated in Kenya and approved by the Capital Markets Authority reflecting this category	70%
5	Preference shares and ordinary shares of companies quoted in a stock exchange in Kenya, Uganda or Tanzania and collective investment schemes incorporated in Kenya and approved by the Capital Markets Authority reflecting this category	70%
6	Unquoted shares of companies incorporated in Kenya and collective investment schemes incorporated in Kenya and approved by the Capital Markets Authority reflecting this category	5%
7	Offshore investments in bank deposits, government securities, quoted equities and rated Corporate Bonds and offshore collective investment schemes reflecting these assets	15%
8	Immovable property in Kenya and units in property Unit Trust Schemes incorporated in Kenya and collective investment schemes incorporated in Kenya and approved by the Capital Markets Authority reflecting this category	30%
9	Guaranteed Funds	100%
10	Any other assets	5%

## Appendix II: Sample Data

	<u>ID</u>	<u>X1</u>	<u>X2</u>	<u>X3</u>	<u>X4</u>	<u>X5</u>	<u>X6</u>	<u>X7</u>	<u>X8</u>	<u>X9</u>	<u>X10</u>
2003	21	632.00	558.58	551.95	2.06	34.51	73.06	0.00	696.66	0.00	0.46
	100	19.77	604.70	88.98	0.00	24.13	124.83	41.80	0.00	0.00	7.71
	538	1,361.50	146.36	76.36	44.85	0.00	12.80	0.00	0.00	0.00	6.34
	628	208.56	300.22	146.59	0.00	22.20	30.01	1.74	0.00	0.00	0.20
	1,395	2.94	3.11	0.46	0.00	0.05	0.26	0.00	0.00	0.00	0.02
2004	16	232.80	2,498.29	1,587.83	0.00	101.26	0.00	267.36	930.17	0.00	3.76
	107	1,006.25	4,788.24	967.19	0.00	124.86	230.00	20.84	89.95	0.00	0.00
	210	1,210.54	1,169.48	2,063.19	22.66	206.67	104.68	0.00	970.89	0.00	0.63
	278	32.50	67.10	64.74	1.79	2.83	0.00	0.00	19.20	0.00	0.00
	822	285.37	539.71	304.24	1.25	41.50	20.00	0.00	82.00	11.75	0.00
2005	16	336.00	2,565.16	2,442.61	0.00	238.13	0.00	118.00	1,018.87	0.00	1.64
	37	0.00	72.14	24.20	0.00	7.10	12.07	0.00	2.03	0.00	0.00
	206	455.80	269.99	0.06	0.50	16.63	18.82	0.00	0.00	0.00	0.00
	214	90.50	303.81	146.60	231.33	21.67	6.36	0.00	47.14	0.00	93.83
	299	54.00	155.67	65.04	0.00	3.93	15.29	0.00	15.64	0.00	0.00
2006	30	40.40	955.95	203.09	11.72	24.81	160.41	0.00	0.00	0.00	0.00
	107	1,536.91	5,405.84	1,708.56	0.00	249.57	308.45	9.61	331.49	0.00	0.00
	203	222.00	259.60	218.30	1.23	23.10	55.08	0.00	91.64	0.00	0.00
	1,184	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.68	0.00
2007	100	40.85	951.58	528.62	0.00	59.13	107.97	0.00	129.07	0.00	31.35
	200	1,382.50	2,790.23	2,142.17	0.00	81.25	607.33	197.62	269.82	0.00	3.73
	210	1,531.50	1,727.45	3,435.44	16.39	156.76	559.28	0.00	993.21	0.00	0.00
2008	107	1,500.27	5,460.13	4,167.72	0.00	230.07	453.07	0.00	490.19	0.00	0.16
	278	35.00	43.27	31.83	0.00	3.33	17.51	0.00	8.90	0.00	0.00
	299	88.50	198.42	124.14	0.00	22.64	30.14	0.00	20.68	0.00	0.00
2009	24	0.00	95.55	33.88	0.00	17.90	1.21	0.00	2.84	0.00	0.00
	383	1,457.00	2,439.89	2,508.18	0.00	398.14	106.44	0.00	59.54	0.00	637.81
	454	4,569.66	3,440.03	1,720.03	0.00	179.21	221.75	0.00	0.00	0.00	4.19

### Appendix III: Residual Statistics

**Residuals Statistics(a)**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-7,109,335.0000	961,795,328.0000	259,062,816.7143	315,058,157.01823	28
Std. Predicted Value	-0.845	2.230	0.000	1.000	28
Standard Error of Predicted Value	22,325,798.000	86,264,376.000	48,662,947.646	24,183,201.379	28
Adjusted Predicted Value	-59,264,984.0000	1,536,114,944.0000	272,003,689.3856	405,828,540.32177	28
Residual	-	158,736,896.00000	0.00000	68,550,233.62786	28
Std. Residual	-1.944	1.837	0.000	0.793	28
Stud. Deleted Residual	-3.216	2.507	0.030	1.312	28
Deleted Residual Stud.	-	468,070,784.00000	-	264,960,508.13462	28
Deleted Residual	867,878,464.00000		12,940,872.67129		
Deleted Residual	-4.985	3.063	-0.014	1.662	28
Mahal. Distance	0.839	25.957	9.643	9.142	28
Cook's Distance	0.000	9.148	0.676	1.791	28
Centered Leverage Value	0.031	0.961	0.357	0.339	28

**Source: Research data**