RISK MANAGEMENT STRATEGIES AND RETURNS BY PENSION FUNDS IN KENYA

BY

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D61/60107/2010

THE MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF DEGREE IN MASTERS OF BUSINESS ADMINISTRATION (MBA), SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

October 2011
Declaration

This research work is my original work and has not been presented for a degree in any other university for award of Degree/ Diploma.

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

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Dedication

This project is dedicated to my family; Loving wife Lucy for encouragement, patience and prayers throughout the course, my wonderful sons Edwin and Emmanuel and my lovely daughter Stephanie for their emotional support.
Acknowledgement

I begin by thanking the Lord for His inspiration to undertake this course and for my health and for being my provider this far. In a special way for the intercessions received from the Blessed Virgin Mary in my life.

Secondly I wish to appreciate my family, Lucy, Edwin (for editing my work), Stephanie and Emmanuel for prayers, moral support and encouragement, my parents Titus and Monicah and my siblings and Cousin, Naomi for your prayers and encouragement.

My appreciations go to my supervisor Mr. Josephat for his guidance and availability up to the conclusion of this project.

My classmates were an encouragement to me, the members of Don Bosco evening rosary group members for your constant prayers. I wish to appreciate my good friends, E. Karanja (KRA), Simon (Liberty Pension) and Mucheru (KURA), my mentors J K Gitau, Father George (Philothea) and Father Mwakiwiwi (Voi)

Last but not the least, entire staff and management of Kenya National Examination Council led by the CEO Mr. P. Wasanga and head of Finance and HRM department Mrs. F. Wanyanga for the financial support towards the research project.

May God bless you all.
Abstract
The purpose of the study was to determine the various risk management strategies given the different investment returns reported by various schemes considering the prevailing Kenyan environment. The study enlightens the stakeholders in the pension industry the effects of strategies arising from risk exposure.

The data was obtained from both primary and secondary data sources, which included completion of a structured questionnaire, audited accounts, end of period returns and annual returns from the Retirement Benefit Authority.

The data was analyzed by sorting out and editing the questionnaires identifying filled items, and those that were wrongly responded to. Exploratory data analyzed by way of statistical summaries, graphical representations, and frequency distribution tables. Coefficient of correlation measure was used to assess how much returns could be expected to be influenced by changes in risk strategies.

The study revealed that. Pension fund regulations aim at promoting high levels of benefit security at an acceptable cost. Accounting standards in turn aim at ensuring the transparent disclosure of information to shareholders.

Some of the key variables analyzed such as the funding cost and the volatility of contributions provide an order of magnitude for the potential cost of regulations. A full cost-benefit assessment of different regulatory regimes requires comparing these costs against the benefits, in terms of greater benefit security achieved.

The study can be used to explain the reasons for important strategic policies on investment decisions and their effects on risk exposures. Some of the strategies outlined included, strategies on cost management, effective internal controls systems, compliance with the pension regulators and returns on performance measurement.
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<thead>
<tr>
<th>Abbreviation</th>
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<tr>
<td>AIG</td>
<td>American International Group</td>
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<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>CSPS</td>
<td>Civil Servant Pension Scheme</td>
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<td>DB</td>
<td>Defined Benefit</td>
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<td>DC</td>
<td>Defined Contribution</td>
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<td>GDP</td>
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<td>IPS</td>
<td>Investment Policy Statement</td>
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<td>KRA</td>
<td>Kenya Revenue Authority</td>
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<td>KURA</td>
<td>Kenya Urban Road Authority</td>
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<td>MSCI</td>
<td>Morgan Stanley Capital International</td>
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<td>NSE</td>
<td>Nairobi Stock Exchange</td>
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<td>NSSF</td>
<td>National Social Security Fund</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>ORS</td>
<td>Occupational Retirement Schemes</td>
</tr>
<tr>
<td>RBA</td>
<td>Retirement Benefit Authority</td>
</tr>
</tbody>
</table>
TABLE OF CONTENT

Declaration ...................................................................................................................ii
Dedication ..................................................................................................................iii
Acknowledgement ......................................................................................................iv
Abstract ......................................................................................................................v
List of abbreviations ..................................................................................................vi

CHAPTER ONE
INTRODUCTION ........................................................................................................1
1.1 Background of the Study ..................................................................................1
1.2 Problem Statement .........................................................................................5
1.3 Research Objectives .......................................................................................6
1.4 Value of the Study ..........................................................................................6

CHAPTER TWO
LITERATURE REVIEW ............................................................................................8
2.1 Introduction .....................................................................................................8
2.2 Theoretical Framework ..................................................................................8
2.2.1 Systems theory view of pension funds .......................................................8
2.3 Historical Development of Pension Funds ......................................................9
2.3.1 Pension Fund Systems in Kenya ...............................................................10
2.4 Pension Fund Risk .......................................................................................13
2.5 Risk Management Strategies ........................................................................14

CHAPTER THREE
RESEARCH METHODOLOGY .............................................................................20
3.1 Introduction .....................................................................................................20
5.4 Recommendations for Policy and Practice.................................................................45
5.5 Recommendations for further Research .................................................................46
REFERENCES .....................................................................................................................47
APPENDIX I
Introductory letter.............................................................................................................51
APPENDIX II
QUETIONNAIRE ..............................................................................................................52
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Risk management is the identification, assessment, and prioritization of risks (defined in ISO 31000 as the effect of uncertainty on objectives, whether positive or negative) followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities. Risks can come from uncertainty in financial markets, project failures, legal liabilities, credit risk, accidents, natural causes and disasters as well as deliberate attacks from an adversary. Several risk management standards have been developed including the Project Management Institute, the National Institute of Science and Technology, actuarial societies, and ISO standards. Methods, definitions and goals vary widely according to whether the risk management method is in the context of project management, security, engineering, industrial processes, financial portfolios, actuarial assessments, or public health and safety (Sze 2008).

The strategies to manage risk include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk (Blome et al. 2007). Certain aspects of many of the risk management standards have come under criticism for having no measurable improvement on risk even though the confidence in estimates and decisions increase. In ideal risk management, a prioritization process is followed whereby the risks with the greatest loss and the greatest probability of occurring are handled first, and risks with lower probability of occurrence and lower loss are handled in descending order. In practice the process can be very difficult, and balancing between risks with a high probability of occurrence but lower loss versus a risk with high loss but lower probability of occurrence can often be mishandled. Intangible risk management identifies a new type of a risk that has a 100% probability of occurring but is ignored by the organization due to a lack of identification ability. For example, when deficient knowledge is applied to a situation, a knowledge risk materializes. Relationship risk appears when ineffective collaboration occurs. Process-engagement risk may be an issue when ineffective operational procedures are applied. These risks directly reduce the productivity of knowledge workers, decrease cost effectiveness,
profitability, service, quality, reputation, brand value, and earnings quality. Intangible risk management allows risk management to create immediate value from the identification and reduction of risks that reduce productivity. Risk management also faces difficulties in allocating resources. This is the idea of opportunity cost. Resources spent on risk management could have been spent on more profitable activities. Again, ideal risk management minimizes spending and minimizes the negative effects of risks, (Ambatchsheer 2001).

Pension funds are the principal sources of retirement income’ for millions of people in the world (Sze 2008). The retirement benefits sector in Kenya is regulated by the Retirement Benefits Authority (RBA), a regulatory authority formed under the Retirement Benefits Act, Act No. 3 of 1997 with the mandate to first, supervise management and establishment of retirement benefits schemes and secondly to ensure that the interests of members and sponsors of these schemes are protected. The Authority also has a role to develop the retirement benefits industry and advise the Government on matters relating to retirement benefits. In addition to the safety provided by regulation of retirement benefit schemes, members of these schemes enjoy various tax incentives advanced at both the contribution and withdrawal of benefits stage.

Current risks faced by occupational pension schemes (Supervisory Guideline No. 2, section 55(3) of the RBA Act) are classified under three broad categories namely: Systemic risk, Portfolio risk and Agency risk.

Systemic risk arises when all retirement benefits schemes are affected by financial meltdowns or other economic catastrophes. This is likely to take the shape of large numbers of schemes being unable to receive contributions and severe arrears building up. Some schemes may close in an unfunded position and some may be unable to meet benefit obligations. This is a risk which is arguably difficult to guard against and might require the Authority to work with the sector players for purposes of bringing affected schemes back into financially acceptable position.

A further aspect of systemic risk is” liquidity risk” or “run on the scheme”. This is likely to happen in schemes when members must retire or terminate employment and have no access to their funds for example mass lay-offs might put a significant liquidity strain on pension schemes. (Roy D. Henriksson 2007).
Given statistical fluctuations in mortality, fairly large numbers of scheme members are exposed to risk and we are required to rely on the “law of large numbers”. If these risks are not insured in some fashion, the scheme would be running considerable actuarial risk unless the schemes were of sufficient size to be able to absorb the risk. (Hardy 1995).

Agency risks, apart from financial risks is related to investments and funded ratios, the risks that are most susceptible to regulatory intervention as far as agency risks are concerned include, Excessive fees and expenses, Conflicts of interest and Fraud, misappropriation and misallocation. Agency risk can arise from simple ignorance of law and unwillingness to adopt best practices, or through willful negligence and corrupt practices. (RBA Act SG, No.2)

Regulatory Risk is usually based on policy objectives, especially in the case of voluntary pension schemes, which are not profit undertakings, a light touch will be expected by the industry. Excessive regulatory burden which is not directed towards achieving specific objectives related to protection of scheme members’ rights, equity and disclosure may likely discourage the establishment of such schemes. This may also add unnecessary cost to both the schemes themselves and the Retirement Benefit Authority or exacerbate other risks, for example, scheme sponsors might adopt unacceptable conducts to avoid the burden of petty bureaucracy. (Stewart, F. 2010)

Possible Strategies likely to be undertaken will include; Systemic risk might require the Authority to work with the sector players for purposes of bringing affected schemes back into financially acceptable position. Erosion of the whole pension system annuities in lieu of lump sums may be considered. (RBA Act SG, No.2)

Portfolio risk can be mitigated by establishing an investment policy that recognizes the interaction between assets and liabilities and so encourages them to adopt more suitable long term asset mixes. This would also include the consideration of legally acceptable foreign investments; further defined benefits schemes should adopt a more realistic view of long term investments in actuarial valuation bases. (RBA Act SG, No.2)

Inadequate Returns risk, In the case of defined benefit schemes, one way of mitigating this risk the Authority will require more rapid funding of schemes in deficit, especially those with a
solvency deficiency. It will be appropriate for sponsors not to over promise. A less ambitious pension but more secure, is preferable as it will be most likely honoured and hence less supervisory intervention. While it is not normally the supervisor’s role to influence scheme design, the Authority may deem it appropriate under given circumstances to encourage the development of a sound retirement benefits sector. (RBA Act SG, No.2)

Cyclical Risks can be mitigated to some extent by schemes allowing scheduled draw down of accumulations by members or by members delaying the purchase of annuity until such time when interest rates are favorable. Defined benefit schemes can lower this risk by the development of a competitive annuity market (possibly with partial indexation features) and other forms of scheduled payout for defined contribution members reaching retirement or by continuing to pay out of the fund if annuity rates appear particularly unattractive. (RBA Act SG, No.2)

Actuarial Risk on the Liability Side may be reduced by setting realistic long term financial and economic assumptions based on past experience, economic theory and expectations as to long run parameters in the economy. The actuarial risk can also be insured in case of huge liabilities arising. (RBA Act SG, No.2)

Agency risks can be corrected by education but in some cases, more coercive measures, including prosecution of the guilty parties, to the full extent of the law, risk based supervision can also be enhanced.

Excessive fees and expenses will require full disclosure of such fees and expenses, this will ensure that competition will bring them down to the lowest levels consistent with good service and minimize the agency risk. Full disclosure of the process used to select third parties as well as competitive bidding. Schemes will be expected to develop a strict code of conduct and prohibition of non-arm’s length transactions to help in limiting this risk.

Conflicts of interest, any conflicts must be declared and members must exclude themselves from a vote if they are in a conflict situation. Minutes of meetings may be reviewed to ensure that this happens. Again, competition, separation of functions and hiring personnel with Professional qualifications for third party providers will minimize these risks.
Fraud, misappropriation and misallocation, transparent outsourcing processes, payment of contributions on time should be encouraged. The law should put a responsibility on all parties to report inadequate or missing payments, while separation of functions will assist in this.

Regulatory Risk may require pre-requisites for a successful system of risk-based supervision to be put in place and avoidance of bureaucracy in terms of regulating authorities.

1.2 Problem Statement

Pension fund risk management is important since risk exposure to pension schemes tend to reduce the returns on investment over the long run, creates uncertainty about the value of pension assets when pension liabilities become due and raises questions that impact on the governance (by trustees) aspect of pension funds when irregularities and market volatility lead to losses in the pension funds (Maurer et al. 2009).

Considering how risk is managed by respective trustees and fund managers, investment returns are bound to differ from one scheme to the other. By comparing the strategies being used by respective schemes it will be possible to derive from the survey which strategies appear more superior to the others as a result of the returns.

Onyimbo (2009), in his epic on the dilemma faced by fund managers towards investment function in Kenya observed that investment decisions are subject to: direct investments in companies, public debt, bank deposits investments in real estate and foreign assets. The study gave investment option as dilemma void of investment strategies that are arrived at from a risk management perspective. Gathua (2008) observed that pension fund institutions have the responsibility to select an investment strategy that balances risks and returns appropriately for plan members. His study emphasized on investment policy the key driver in managing risk through three main components: setting long-term performance targets, defining an acceptable level of risk tolerance, and setting parameters for short-term asset allocation. However risk management is a practice and not a policy statement issue.

Different authors (Asebedo and Grable 2004; Markese 2000; Stanko 2002) relate the investment strategy to the mix that an investor makes in the investment portfolio. Asebedo and Grable (2004) further identify two investment management styles: passive and active management and
argue that passive investment management is more conservative than active investment management. This study will try to establish whether this strategy still hold after almost a decade.

Kihunyu (2005) related his study on the RBA Act of 2000 on compliance with portfolio investments since then more guidelines have been issued by RBA amending some previous regulations thus controlling investments of pension funds, while Lydia (2006) concentrated on investment risk borne by fund managers only. Since this study new regulations have been put in place making Trustees responsible for investments of pension fund by way of an investment policy in liaison with fund managers. This survey would want to establish why some schemes are performing better than the others despite similar environments.

Given the dynamics of the pension industry and having in mind that it is not a very old industry in Kenya (thus not fully developed) compared to others e.g. insurance, banking etc. thus more often than not subsidiary legislation has come in place trying to amend existing Act. This has resulted in a research gap as regulators try to catch up with the actual activities in the environment requiring high levels of supervision by industry regulators mainly Treasury and RBA. The empirical literature does not relate risk management strategies employed by pension schemes trustees’ and fund managers in Kenya due to the dynamics in the industry. Most of the service providers apply existing empirical theories existing in developed economies which usually do not apply due to the different environments.

According to well-known studies by Brinson and colleagues, more than 90% of the variability in a typical plan sponsor’s performance (returns) overtime is as a result of asset allocation policy, the study would establish to what extent are these risks impacting on the returns.

1.3 Research Objectives

To compare various risk management strategies given the different investment returns reported by various schemes considering the prevailing environment.

1.4 Value of the Study

To begin with the government and other institutions (like the Retirement Benefit Authority of Kenya) involved in policy formulation will find the findings of this research useful since it will
contribute towards the formulation of positive fiscal policies that are relevant to the forces influencing the investment strategies in the pension sector.

Secondly to the pension fund institutions this research will be instrumental in evaluating and assessing the available risk management strategies under pension fund portfolio performance measures. Most important the results of the study will be relevant to all pension fund managers in Kenya. With this information the various fund managers will be able to implement changes that will lead to improved portfolio returns.

Thirdly the authorities will be in a position to implement risk based supervision for better governance and administration of pension schemes.

Finally, other researchers & investment institutions willing to highlight risk management strategies in the pension sector while describing its relevance in the developing countries will also find this study resourceful.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter gives a detailed literature review of pension funds. It gives the theoretical framework of the study, describes the historical development of pension funds, operations and value of pension fund in Kenya and concludes by reviewing the attributes of pension fund risks.

2.2 Theoretical Framework

2.2.1 Systems theory view of pension funds

Pension funds like other organizations, can be viewed as open systems since they collect and accumulate contributions from employees (members) and their sponsors (employers who establish the pension fund), invest the contributions and hold the proceeds in stewardship for the benefit of the members upon retirement (Davis 2005). Davis (2005) thus suggests that pension funds have definite inputs that they convert to outputs. Following this systems theory approach (inputs – conversion – outputs), efficiency in the present study is conceptualized as the pension fund’s ability to maximize financial outputs (pension fund value and retirement benefits) from the scarce financial resources (contributions, investment funds, other inputs) available to it. According to Chansarn (2005), a financially efficient system ensures distribution of limited funds to the most beneficial uses in the most effective manner. Why similar schemes (size and assets) report different returns.

The systems approach is also evident in the OECD’s (2004) description of efficiency. The latter defines efficiency as controlling spending, accomplishing more with lesser financial resources, commissioning long term investments to save financial resources in the long term and using budgets prudently. Concurring with the systems approach, pension fund efficiency in the present study is defined as the ability of a pension fund to maximize its financial outputs (retirement benefits and asset values), operate at minimal costs, pay retirement benefits on time and generally optimize gains to members.
2.3 Historical Development of Pension Funds

Langley (2006), Newmann (2005), Curtler and Johnson (2004), Guinan (2003), Lindert (1994), and trace the earliest pension fund system to Germany. These authors credit former German Chancellor Otto Von Bismarck for enacting a compulsory savings programme for workers in large firms who were exposed to the socialism ideologies in 1889. Perotti and Schwienbacher (2008) state that the Bismarck pension fund system was financed through worker and employer contributions, attracted taxation incentives and paid retirement benefits once the worker reached the age of 65. According to Lindert (1994), pension fund contributions under this system were invested in financial securities. This system however had no provision for pension entitlement to personal representatives in case of death, it was mainly restricted to the civil servants and war veterans and many workers did not live to enjoy the retirement benefits as life expectancy was 60 years (Lindert 1994).

Perotti and Schwienbacher (2008) describe the Bismarck pension fund system as a “social security programme” defined as a “comprehensive retirement programme covering many production workers.” The Bismarck programme was replicated at varying time periods in different countries, for example, Japan 1875, United States 1896, New Zealand 1898, Belgium 1900, Australia 1941, Belgium 1967, Canada 1966, Denmark 1964, Greece 1978 and United Kingdom in 1948 amongst others (Perotti and Schwienbacher 2008).

The development of pension fund systems was a reaction to the political and economic shocks affecting the world (Perotti and Schwienbacher 2008; Clark 2003; Ambatchesheer 2007) during the Victorian period (five decades prior to the First World War). During this period, prices were reasonably stable, with long-term rental contracts and general stability in the financial and political systems in the West and hence there was no need for social or retirement security. The First World War caused an inflationary shock, which acted as a catalyst to the changes that were later effected in the financial systems. The resultant loss of jobs, suspension of various currencies and the stock market crisis of 1929 prompted governments to create policies to cater for their working populations which consequently led to the formation of the modern pension fund systems (Perotti and Schwienbacher 2008).
As pension fund systems developed, economic and political shocks affected their sustainability in different countries (Meyer 2004; Newmann 2005) and so the only institutions that could be trusted to secure retirement funds were the governments. In Germany, the Bismarck system was transformed to a Pay as You Go (PAYG) scheme in 1957 funded by the state with France and Finland following suit (Meyer, 2004). In Africa, pension fund systems were developed after independence and the pension fund models that were being used by their colonial masters were adopted (Ahmad 2008).

2.3.1 Pension Fund Systems in Kenya

Pension fund systems in Kenya were first put in place after independence in 1963. The first post independent pension fund body, the National Social Security Fund (NSSF), was established in 1965 (RBA 2000). Prior to reforms, the pension fund system provided for benefits once a worker retired on attaining the mandatory retirement age of 55 (RBA 2006). The guarantee was fixed as the worker’s full basic salary throughout his life or that of the widow as the law did not envisage a situation where the wife would support the husband. This law was embodied in the NSSF Act and the Pensions Act (Cap 189).

The pension fund system in Kenya has been supervised by the independent Retirement Benefits Authority (RBA) since 2000, which oversees the 1997 RBA Act that brought about regulation, protection and structure to the pension fund industry. The RBA continues working to develop the industry and advise the government on pension policy reforms.

Kenya’s pension fund system embraces four components namely the NSSF, Civil Servants Pension Scheme (CSPS), Occupational Retirement Schemes (ORS) and Individual Retirement Schemes. Overall the system is estimated to cover 15% of the labour force and to have accumulated assets of 18% of the GDP (Kakwani et al. 2006). The pension fund system covers an estimated 2 million workers leaving an estimated 5 million workers uninsured under any retirement scheme, of which at least 10% are at or near the retirement age (Kakwani et al. 2006).

The dynamics in the pension industry coupled with the risks involved would enable pension scheme provide benefits to their employees even after retirement which is the key objective of any scheme.
2.3.2 Nature and operations of pension funds

A pension fund is a legally separated pool of assets bought with contributions to a pension fund for the exclusive purpose of financing pension fund retirement benefits (OECD 2008; Yermo 2002). A distinction is however often made between a pension fund and a pension plan (OECD 2008). A pension plan has a legally binding contract with a clear retirement objective that may be part of the employment contract or may be required by law. Pension plans may offer additional benefits such as disability, sickness and survivors’ benefits (Yermo 2002). A pension fund can be incorporated to manage pension assets of various pension plans. In Kenya however, each pension plan is allowed to manage only pension assets of their own (RBA 2008). Thus pension plans are also called pension funds or retirement income schemes in Kenya.

The pension fund members have a legal or contractual claim on the assets of the fund (Yermo 2002). Pension funds are therefore trusts with legal capacity to invest and manage beneficiary funds with diligence and stewardship.

Pension funds collect and accumulate contributions from employees and their sponsors (employers who establish the pension scheme), invest the contributions and hold the proceeds in stewardship for the benefit of the members on retirement (OECD 2004, EBRI, 2004). OECD further shows that although both the employee and the employer contribute to the pension fund, the employer is not obliged to contribute any fixed amount. The contribution rates by the sponsor and the employee are listed in the pension fund constitution and they differ from one employer to another.

When an employee retires, his or her pension benefits may be paid out in lump sum or may be paid in monthly installments or there may be an initial lump sum on retirement and consequent monthly installments (Almaric 2006 World Bank 2005; Scott, Watson and Hu 2009 Yogo 2009).

The payment regime depends on the stipulations of the trust covenant (pension fund constitution), the pension fund design, the contributions made by both the employee and the
sponsor during the worker’s membership in the fund and the returns generated by the pension fund (Almaric 2006).

Workers in Kenya are forbidden to withdraw retirement benefits from their employer’s pension funds when they change jobs or before they reach the retirement age, except those in ill health or those who suffer permanent disability (RBA Act 1997, as cited in Nyakundi 2009). The implication is that workers who leave their job before the retirement age of 55 cannot access their employer’s contributions but may withdraw their own contributions. The employer’s contributions may however be transferred to another Scheme of the employee’s choice. Retirement savings contributed by both the employee and the sponsor can also be used as collateral when buying a home.

In summary, pension funds are distinct entities that are neither commercial corporations nor state owned enterprises. They therefore do not compete for customers or market share and they are single product entities as defined by the pension’s law to provide members with financial security throughout their retirement life (Asher and Nandy 2006). Pension funds do not seek growth to pay dividends but instead they are evaluated on the basis of value adding to the members and long-term solvency and they limit risk by segregating their assets from those of the sponsoring entities.

2.3.3 Pension fund structure

The ultimate authority of the pension fund vests with the members and the sponsors who appoint the board of trustees that manages the pension fund affairs. The board of trustees further nominates custodians, fund managers, auditors and fund administrators to help run the pension fund. The responsibilities of each office bearer are discussed in the Trust Deeds and Rules and the Retirement Benefit Authority guidelines.
2.4 PENSION FUND RISK

2.4.1 Defining pension fund risk

Applied to pension funds, risk reflects any variable that prevents a pension fund from achieving its intended objectives of providing adequate retirement income (Mangiero 2006; Yermo 2007). The impediments to pension fund objectives may include failure by the sponsors to meet their promises, stock market volatilities and operational inadequacies (Mangiero 2006).

According to Mangiero (2005), “pension fund risk management implies management of multiple risk types – such as financial, operational and legal risks and assumes the use of derivatives.” Mangiero (2005) thus views pension fund risks as including both operational and financial uncertainties.

Pension fund risk management involves five steps namely identification (threats and opportunities), evaluation, prioritization, treatment (accept, mitigate, exploit or avoid) and monitoring (Blake 2007). According to Blake (2007), pension fund risk management is a structured process that should be handled with expertise to optimize pension benefits. It involves the measurement and assessment of pension fund risks and the design, monitoring and revision of the pension fund’s parameters (contributions, benefits and investments) in order to address these risks in line with the fund’s objectives (Blome et al. 2007). The main goals of pension fund risk management are the minimization of pension costs and minimization of the chances of benefit cuts to beneficiaries (Blome et al. 2007).

2.4.2 Importance of pension fund risk management

Retirement risk management has become important as a result of the global demographic aging coupled with social security benefit cuts and the volatile stock market returns (Maurer, Mitchell and Rogalla 2008). The major concern for pension fund stakeholders has been the variability of the value of pension fund investments which have always been based on the aberrant market values (Maurer et al. 2009).
Bikker et al. (2009) concur that pension funds are instrumental in the transfer of risk from individuals to collectives and hence are better risk managers compared to individual investors since they have incentives to invest long run and bear the long-term risks. The collectivism of the pension fund members enables them to bear risk that would have been otherwise avoided thus making them more efficient (Bikker et al. 2009).

Pension fund risk management is important since risk tends to reduce the returns on investment over the long run, creates uncertainty about the value of pension assets when pension liabilities become due and raises questions that impact on the governance aspect of pension funds when irregularities and market volatility lead to losses in the pension funds (Maurer et al. 2009).

2.4.3 Pension fund risk exposure

The nature of pension funds exposes them to different aspects of risk. Key amongst these risks is default risk from employers and employees, stock market risk, operational risks and liquidity risks. Each of these elements of pension fund risks is discussed in turn. Fund risk exposure as well as the management thereof is also investigated in the present study.

2.5 Risk Management Strategies

Applied to pension funds, risk reflects any variable that prevents a pension fund from achieving its intended objectives of providing adequate retirement income (Mangiero 2006; Yermo 2007). The impediments to pension fund objectives may include failure by the sponsors to meet their promises, stock market volatilities and operational inadequacies (Mangiero 2006).

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2.5.1 Strategic Cost Management

Investment management and administrative costs can significantly increase the cost of retirement security, lower the rates of return on investments and decrease the retirement benefits (Bikker and Dreu 2009; Bateman and Mitchell 2004; OECD 2009). It is therefore important that pension
funds manage their costs to achieve efficiency and by doing so add value to the pension funds of members.

According to the Ministry of Finance in Kenya (Survey 2009), activities that show evidence of management’s efficiency in cost control include the undertaking of continuous reviews to eradicate redundant operations, the minimizing of bureaucracy and the adoption of appropriate technology. These measures, according to the ministry board, should result in the elimination of functions that merely increase administrative overheads. The board further recommends reducing administrative costs by contracting out when the benefits exceed the costs. Furthermore, investment choices influence the investment costs incurred by pension funds (Tang and Mitchell 2008). According to Tang and Mitchell (2008), costs increase significantly when pension funds change their investment strategies in favour of actively managed equity funds at the expense of the low-cost equity index funds. They therefore urge pension funds to retain investment strategies that do not result in increased administration and investment costs. In addition, Hustead (2008) indicates that administrative expenses differ significantly between the defined benefit and defined contribution pension funds with the defined contribution funds reporting far less management costs. Hustead (2008) therefore suggests that defined contribution schemes are more cost effective compared to their defined benefit counterparts.

Finally, the OECD (2009) urges member countries to lower their pension administration and marketing costs by using competitive technology, governments’ disseminating information to pension fund members on behalf of the pension plans and making use of the most cost efficient service providers. OECD (2009) therefore suggests internal practical measures to continuously reduce pension fund’s administration and investment costs in order to achieve fund efficiency.

2.5.2 Effective Internal Control Systems

An effective internal control system is defined as “all the policies and procedures (internal controls) adopted by the management of an entity to assist in achieving management’s objective of ensuring, as far as practicable, the orderly and efficient conduct of its business, including adherence to management policies, the safeguarding of assets, the prevention and detection of fraud and error, the accuracy and completeness of the accounting records, and the timely
preparation of reliable financial information” (ISA 400). The aim of internal control is to achieve efficiency, avoid waste and to ensure reliability of the internal and external information generated by management.

With regard to pension funds, it is important that appropriate controls be instituted to ensure that all persons and entities with operational and supervising responsibilities of the fund act in accordance with the objectives set out in the pension entity’s by-laws and statutes (Asher and Nandy 2006). These controls should cover all the basic organizational and administrative procedures, including performance assessment, compensation mechanisms, information systems and processes and risk management procedures (Asher and Nandy 2006). Effective internal control mechanisms protect the rights and benefits of pension fund members.

In recent times, pension fund management has been complicated by a myriad of factors including stringent accounting principles, strict compliance rules, new information technology developments and stern penalties imposed by governments for non-compliance (Bikker and Dreu 2009:21). Bikker and Dreu (2009) therefore call for adherence to appropriate internal control mechanisms, characterized by appropriate financial reporting in order to comply with pension fund legislation (Impavido 2002). Impavido (2002) suggests that control systems should be regularly audited both internally and externally to ensure pension fund accountability.

2.5.3 Compliance with the Pension Legislation

Pension fund legislation stipulates the following fiduciary obligations that trustees should comply with: communication with members; policies to ensure proper and accurate actuarial valuations; to ensure that contributions are received on time; the prudent investment of the pension fund’s money; timeous payment of accurate benefits in accordance with the terms of the fund and the law; and how to ensure that the pension fund is appropriately funded. An efficient pension fund is successful in complying with the applicable legislative framework.

In addition, Steele (2006) asserts that pension fund efficiency can be gauged by how successful the fund is in implementing regulations on time based reporting; ensuring that contributions are collected from sponsors and members; filing annual information returns; making documents available to the regulators for inspection; and providing member statements on time.
2.5.4 Achieving Appropriate Funding Levels

The ratio of assets to the present value of vested funded liabilities is important for pension funds (Yang and Mitchell 2005; Weller 2005; Weller and Baker 2005; Mitchell and Smith 1994). Pension fund assets should exceed the pension fund liabilities estimated in present value terms to assure members that the pension fund is liquid and able to meet all its liabilities as and when they fall due. This ratio also affects the fund’s investment strategy, in that a well-funded pension fund should be able to bear investment risks better compared to the under-funded plans. There is therefore a close association between a pension fund’s funding status and its performance. An efficient pension fund should therefore take all reasonable measures to increase the funding ratio.

Franzoni and Marin (2006) concur that under-funding is often an indicator of poor performance and a precursor to pension fund malpractices. Pension fund performance and funding are further related to structural and pension design features such as control and governance systems (Yang and Mitchell 2005) and the use of appropriate calculation methods for asset valuation and liabilities funding, such as actuarial techniques and amortization rules (Asher and Nandy 2006). These techniques and rules must be set up and based on transparent and comparable standards as well as accurate actuarial assumptions to increase the efficiency of pension funds.

Under-funding is a serious concern for pension funds (OECD 2009). Corporate pension funds at the largest companies in the United States of America were under-funded by US$ 409 billion at the end of 2008 while the funding ratios of Dutch pension funds had fallen to 85% from 1145% in the same period and in Canada the ratios had dropped by between 15 to 20%. In reaction to these statistics, the OECD (2009) remarked that pension funds should have taken measures to check on their funding ratios to improve efficiency.

Recognizing the need for pension funding, the Kenyan RBA mandates pension funds to maintain their funding ratios at a minimum of 80% and 100% for DC and DB pension funds respectively (Odundo 2008). Where pension funds fall below the stated funding ratios they should detail the strategies they intend to put in place to remedy the situation.

2.6.1 Returns
Earnings from investments include dividend income, interest income, and rental income and capital appreciation. These contribute to the Performance Measurement Sources of growth in a fund.

Investment return

Holding period return (assuming no inflows)

\[
\begin{align*}
\text{Ending value} & \quad - \quad 1 \\
\text{Beginning value} & \\
\end{align*}
\]

Assumes no cash flows into portfolio

2.6.2 Performance Attribution

Performance attribution is the analyzing performance as the effect of something Common basis for attributing performance. These include Asset classes and Asset allocation.

Attribution (Asset classes) breaks down return based on various asset classes to determine which contributed the most and Assumes allocation in line with policy.

Benchmarks are used for comparative purposes. Benchmarks are market proxies that represent the return on that asset class.

2.6.3 Common Benchmarks

Equity: NSE 20 share Index or AIG 27 share index

Fixed Income: Largely 91 day T/Bill

No Bond indices

Offshore: dependent on product.

MSCI Global Equity for pooled equity and JP Morgan Bond for Bond products

Property: No real benchmark
2.6.4 Time weighted returns

Total returns (both realized and unrealized), Value portfolio (at least monthly)

Annualized returns can be calculated both gross and net of fees.

2.6.5 Investment Policy Statement (IPS)

The investment policy statement is a roadmap; in it, investors specify the types of risks they are willing to take and their investment goals and constraints. Because investor needs change over time, the policy statement must be periodically reviewed and updated. The Investment Policy Statement is a written document that spells out the Trustees objectives as they relate to investments.

IPS provides the foundation for the investment management process sets out the clients’ special characteristics and needs. It also serves as the governing document for all investment decision making and clearly spells out all stakeholders roles.

2.7 Conclusion

According to well known studies by Brinson and colleagues, more than 90% of the variability in a typical plan sponsor’s performance (returns) overtime is as a result of asset allocation policy, the study would establish to what extent are this risks impacting on the returns. Some of the strategies outlined included, strategies on cost management, effective internal controls systems, compliance with the pension regulators and returns on performance measurement.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains research methodology used for the study. Research methodology gives details regarding the procedures used in conducting the study. The research design, population, data collection and analysis methods are elaborated.

3.2 Research Design

The study will use descriptive research design in collecting the data from the respondent’s. Bhattachargy (2003) defines descriptive research as a fact finding approach generalizing a cross-sectional study of the present situation.

Descriptive research design will be ideal for this study because it serves as a direct resource of valuable knowledge concerning human behavior (Singh, 2006). It ascertains and describes the characteristics of the variable of interest in a situation. It is restricted to fact finding and may result in the formation of important principles of knowledge and solutions to significant problems. It goes beyond data collection and involves measures, classification, analysis and interpretation (Kothari, 2004).

3.3 Population of Study

The population for the study will consist of 1,679 pension funds in the RBA register by 31 December 2010.

3.4 Sample Size

Mugenda has developed a formula to determining sample sizes from a given population size. The formula is ten (10%) of the entire population, since the target population is 1,679 the sample size will be about 167 pension schemes. Then a random selection of every 5th and 10th scheme will be selected giving a sample size of 33 pension schemes for the study.
3.5 Data Collection

Primary data will be collected by use of structured questionnaires concerning type of scheme, fund design, applied risk management strategies (strategic cost management, effective internal control system and compliance with regulation on funding level) and risk exposure level. The structured questionnaire is an efficient data collection mechanism particularly in quantitative analysis since each respondent is asked to respond to set of questions. The target respondents would be the investment managers and fund administrators in the pension schemes identified. The structured questionnaire is organized into two parts where, Part A focuses on the general organizational bio-data and Part B focuses on risk management strategies (i.e. Strategic Cost Management, Effective Internal Control Systems, Compliance with the Pension Legislation and Achieving Appropriate Funding Levels). The questionnaires will be administered through drop and pick method, through email and telephone follow-ups. Secondary data will be obtained from published reports e.g. investment returns.

3.6 Data Analysis

Data collected will be analyzed using both quantitative and qualitative methods. The raw data collected using the questionnaire will be sorted out and edited to identify filled items, and those that will have wrongly been responded to. Exploratory data analysis which includes statistical summaries, graphical representations, and frequency distribution tables will be used in the preliminary analysis of data (Cooper and Schindler, 2011). A trend analysis through graphical trends was used to assess how much returns were expected to be influenced by changes in risk strategies. Descriptive statistics were used to analyze lir ket questions, where weighted mean and standard deviation were used.
CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the analysis and interpretation of the data collected. The research findings are also summarized and suitable recommendations made accordingly on the basis of the findings. The qualitative form of the data collected was first coded and then analyzed using content analysis. All data collected were first coded before analysis was carried out. Primary data was collected by use of structured questionnaires concerning type of scheme, fund design, applied risk management strategies (strategic cost management, effective internal control system and compliance with regulation on funding level) and risk exposure level. The target respondents were the investment managers and fund administrators in the 33(thirty three) pension schemes identified.

4.2 General Information on the Respondent

The researcher undertook to obtain the background information on the respondent who participated in this study. It is important for the reader to know the particulars of the participants in order to be able to have an objective assessment of the findings.

The underlying information concerning the respondent who furnished the details that formed the research findings was obtained in terms of schemes held by the fund or the administrator.

4.3 Results and Findings
4.3.1 Fund Membership

The table below shows the membership as per the pension scheme range.

**Table 1**

<table>
<thead>
<tr>
<th>Membership Range (Number of Members)</th>
<th>Membership (Number of Schemes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-100</td>
<td>5</td>
</tr>
<tr>
<td>101-200</td>
<td>5</td>
</tr>
<tr>
<td>201-300</td>
<td>11</td>
</tr>
<tr>
<td>301-400</td>
<td>7</td>
</tr>
<tr>
<td>401-500</td>
<td>4</td>
</tr>
<tr>
<td>501&gt;</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

Source: Fund Managers 2010

**Figure 1. Proportion of membership to survey schemes**
4.3.2 Fund Value

Table 2

<table>
<thead>
<tr>
<th>Fund Value (Kshs millions)</th>
<th>&lt; 200</th>
<th>201 – 400</th>
<th>401 – 600</th>
<th>601 - 800</th>
<th>801 – 1,000</th>
<th>1,000 &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Schemes</td>
<td>12</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Fund Managers 2010

Figure 2: Proportion of fund value to schemes
4.3.3 Pension Design

Many pension schemes are contributory in nature as shown below;

<table>
<thead>
<tr>
<th>Scheme Design</th>
<th>Defined Contribution</th>
<th>Defined Benefit</th>
<th>Hybrid of DC and DB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Schemes</td>
<td>27</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: RBA 2010

Figure 3: Distribution of schemes by design

From figure 3 above it implies that most of the schemes surveyed preference is on the defined contribution design of pension.
4.3.4 Scheme Conversion Trends over the last ten year’s

Number of schemes that have converted from Defined Benefits to Defined Contributions

Table 4

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Schemes</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: RBA 2010

Figure 4: Number of schemes by year conversion.

Figure 4 indicates that only six schemes converted during the period.
4.3.5 Strategic Cost Management

Table 5

<table>
<thead>
<tr>
<th></th>
<th>Not At All</th>
<th>To A Less Extent</th>
<th>To A Moderate Extent</th>
<th>To A Large Extent</th>
<th>To A Very Large Extent</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has administration, fund management,</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>22</td>
<td>4.333</td>
<td>0.264</td>
</tr>
<tr>
<td>audit and custody costs decreased</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>considerably over the past five years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our benefits processing period has</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>25</td>
<td>4.545</td>
<td>0.314</td>
</tr>
<tr>
<td>decreased considerably over the past five years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our compliance costs have decreased</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>22</td>
<td>4.333</td>
<td>0.264</td>
</tr>
<tr>
<td>considerably over the past five years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Fund Managers 2010

From the findings on the respondent rating various aspect of strategic cost management, the study found that majority of the respondent rated Our benefits processing period has decreased considerably over the past five years to very large extent as shown by mean of 4.545, those rated to large extent were Has administration, fund management, audit and custody costs decreased considerably over the past five years and Our compliance costs have decreased considerably over the past five years as shown by mean of 4.333 in each case.
Source: Fund Managers 2010

Figure 5,
4.3.6 Effective Internal Control Systems

Table 6

<table>
<thead>
<tr>
<th></th>
<th>Not At All</th>
<th>To A Less Extent</th>
<th>Moderate Extent</th>
<th>To A Large Extent</th>
<th>To A Very Large Extent</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have considerably improved our internal control system over the past five years</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>22</td>
<td>4.333</td>
<td>0.264</td>
</tr>
<tr>
<td>Our records processing system has improved considerably over the past five years</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>22</td>
<td>4.333</td>
<td>0.264</td>
</tr>
</tbody>
</table>

From the findings on the effective control systems, the study found that respondent rated the following to great extent have considerably improved our internal control system over the past five years and their records processing system has improved considerably over the past five years as shown by mean of 4.333 in each case this was supported by low standard deviation.
4.3.7 Compliance with Pension Regulator

Table 6

<table>
<thead>
<tr>
<th></th>
<th>Not At All</th>
<th>To A Less Extent</th>
<th>To A Moderate Extent</th>
<th>To A Large Extent</th>
<th>To A Very Large Extent</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have successfully complied with RBA regulations over the past five years</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>19</td>
<td>4.030</td>
<td>0.217</td>
</tr>
<tr>
<td>Member involvement in decision-making in our plan has increased considerably over the past two years</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>8</td>
<td>3.273</td>
<td>0.699</td>
</tr>
</tbody>
</table>

The results in the above table shows respondent rating on various aspect of compliance with pension regulators, from the findings the study found that majority of the respondent rated having successfully complied with RBA regulations over the past five years to great extent as shown by mean of 4.030, Member involvement in decision-making in our plan has increased considerably over the past two years was rated to moderate extent as shown by mean of 3.273.

Source: RBA 2010

Figure 7
### 4.3.8 Achieving Appropriate Funding Level

#### Table 7

<table>
<thead>
<tr>
<th></th>
<th>Not At All</th>
<th>To A Less Extent</th>
<th>To A Moderate Extent</th>
<th>To A Large Extent</th>
<th>To A Very Large Extent</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our funds have increased over the last five year</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>19</td>
<td>4.030</td>
<td>0.217</td>
</tr>
<tr>
<td>We have experienced less under-funding (pension liabilities exceed pension assets) in our pension fund last five year.</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>8</td>
<td>3.273</td>
<td>0.099</td>
</tr>
</tbody>
</table>

On the rating of various aspect of achieving appropriate funding level, the study revealed that majority of the respondent rated their funds have increased over the last five year as shown by mean of 4.030, they have experienced less under-funding (pension liabilities exceed pension assets) in our pension fund last five year was rated to moderate extent as shown by mean 3.273.
4.3.9 Exposure to risk

Source: Fund Managers 2010

Figure 8
### 4.3.9.1 Exposure to risk - analysis 2006

<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Very Low</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Systematic</td>
<td>11</td>
<td>8</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td>2.333</td>
<td>0.119</td>
</tr>
<tr>
<td>B- Portfolio</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>11</td>
<td>7</td>
<td>3.515</td>
<td>0.122</td>
</tr>
<tr>
<td>C- Agency</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>11</td>
<td>3.606</td>
<td>0.100</td>
</tr>
</tbody>
</table>

On the rating of various exposures to risk in year 2006, the study found that agency and portfolio risk were rated as high as shown by mean of 3.606 and 3.515 respectively, systemic risk was rated as low as shown by mean of 2.333.
Exposure to risk

Source: Fund Managers 2010

Figure 9
4.3.9.2 Exposure to risk- analysis 2007

Table 9

<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Systematic</td>
<td>3</td>
<td>2</td>
<td>15</td>
<td>2</td>
<td>11</td>
<td>3.485</td>
<td>0.183</td>
</tr>
<tr>
<td>B- Portfolio</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>21</td>
<td>4.303</td>
<td>0.249</td>
</tr>
<tr>
<td>C- Agency</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>11</td>
<td>3.606</td>
<td>0.100</td>
</tr>
</tbody>
</table>

On the rating of various exposure to risk in year 2007, the study found that agency and portfolio risk were rated as high as shown by mean of 3.606 and 4.303 respectively, systemic risk was rated as medium as shown by mean of 3.485.
4.3.9.3 Exposure to risk - analysis 2008

<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Systematic</td>
<td>3</td>
<td>2</td>
<td>15</td>
<td>2</td>
<td>11</td>
<td>3.485</td>
<td>0.183</td>
</tr>
<tr>
<td>B- Portfolio</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>21</td>
<td>4.303</td>
<td>0.249</td>
</tr>
<tr>
<td>C- Agency</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>11</td>
<td>3.606</td>
<td>0.100</td>
</tr>
</tbody>
</table>

On the rating of various exposure to risk in year 2008, the study found that agency and portfolio risk were rated as high as shown by mean of 3.606 and 4.303 respectively, systemic risk was rated as medium as shown by mean of 3.485.
<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Systematic</td>
<td>11</td>
<td>8</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td>2.333</td>
<td>0.119</td>
</tr>
<tr>
<td>B- Portfolio</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>11</td>
<td>7</td>
<td>3.515</td>
<td>0.122</td>
</tr>
<tr>
<td>C- Agency</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>11</td>
<td>3.606</td>
<td>0.100</td>
</tr>
</tbody>
</table>

On the rating of various exposure to risk in year 2009, the study found that agency and portfolio risk were rated as high as shown by mean of 3.606 and 3.515 respectively, systemic risk was rated as low as shown by mean of 2.333.

**Figure 11**

Source: Fund Managers 2010
4.3.9.5 Exposure to risk- analysis 2010

Table 11

<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Systematic</td>
<td>11</td>
<td>8</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td>2.333</td>
<td>0.119</td>
</tr>
<tr>
<td>B- Portfolio</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>11</td>
<td>7</td>
<td>3.515</td>
<td>0.122</td>
</tr>
<tr>
<td>C- Agency</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>11</td>
<td>3.606</td>
<td>0.100</td>
</tr>
</tbody>
</table>

On the rating of various exposures to risk in year 2010, the study found that agency and portfolio risk were rated as high as shown by mean of 3.606 and 3.515 respectively, systemic risk was rated as low as shown by mean of 2.333.
4.3.9.6 Systematic Risk Analysis

Table 12

<table>
<thead>
<tr>
<th>Year</th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>11</td>
<td>8</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td>2.333</td>
<td>0.119</td>
</tr>
<tr>
<td>2007</td>
<td>3</td>
<td>2</td>
<td>15</td>
<td>2</td>
<td>11</td>
<td>3.485</td>
<td>0.183</td>
</tr>
<tr>
<td>2008</td>
<td>3</td>
<td>2</td>
<td>15</td>
<td>2</td>
<td>11</td>
<td>3.485</td>
<td>0.183</td>
</tr>
<tr>
<td>2009</td>
<td>11</td>
<td>8</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td>2.333</td>
<td>0.119</td>
</tr>
<tr>
<td>2010</td>
<td>11</td>
<td>8</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td>2.333</td>
<td>0.119</td>
</tr>
</tbody>
</table>
On the analysis of systemic risk, from the findings systematic risk in year 2007 and 2008 was rated as medium as shown by mean of 3.485 in each case, in year 2006, 2009 and 2010 it was rated as low as shown by mean of 2.333 in each case.

4.3.9.7 Our Returns over the past five years net of inflation (tick √)

Table 13

<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Mean</th>
<th>Std deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2006</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>21</td>
<td>4.333</td>
<td>0.250</td>
</tr>
<tr>
<td>Year 2007</td>
<td>14</td>
<td>7</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>2.242</td>
<td>0.138</td>
</tr>
<tr>
<td>Year 2008</td>
<td>28</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1.242</td>
<td>0.365</td>
</tr>
<tr>
<td>Year 2009</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>21</td>
<td>4.333</td>
<td>0.250</td>
</tr>
<tr>
<td>Year 2010</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>18</td>
<td>4.121</td>
<td>0.206</td>
</tr>
</tbody>
</table>

From the rating of the return for the last five years net of inflation, the study found that return in years 2006, 2009 and 2010 were rated as high as shown by mean of 4.333, 4.333 and 4.121 in each case, those rated as low were for the year 2007 as shown by mean of 2.242 and in years 2008 they were rated as very low as shown by mean of 1.242.
### Environmental effects

**Figure 13**

#### Systematic Risk Analysis

![Graph showing risk analysis over years](image)

#### Table 14

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Year 2006</th>
<th>Year 2007</th>
<th>Year 2008</th>
<th>Year 2009</th>
<th>Year 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not At All</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>To A Less Extent</td>
<td>4</td>
<td>4</td>
<td>20</td>
<td>4.182</td>
<td>0.231</td>
</tr>
<tr>
<td>To A Moderate Extent</td>
<td>4</td>
<td>4</td>
<td>22</td>
<td>4.333</td>
<td>0.264</td>
</tr>
<tr>
<td>To A Large Extent</td>
<td>4.182</td>
<td>0.231</td>
<td>4.333</td>
<td>0.264</td>
<td></td>
</tr>
<tr>
<td>To A Very Large Extent</td>
<td>4.182</td>
<td>0.231</td>
<td>4.333</td>
<td>0.264</td>
<td></td>
</tr>
</tbody>
</table>

**To what extent did the post-election violence affect your pension fund in 2007?**

**The interest rates movement as a significant impact on the valuations of bond portfolios within pensions funds, to what extent has your pension fund been affected by the seasonality of changes in interest rates between 2009 to date.**
From the findings on the respondent rating environmental effects the study found that respondent rated the following to great extent; interest rates movement as a significant impact on the valuations of bond portfolios within pensions funds, to what extent has your pension fund been affected by the seasonality of changes in interest rates between 2009 to date as shown by mean of 4.333 and that post-election violence affected pension fund in 2007 to great extent as shown by mean of 4.182.

![Environmental effects chart]

**Source:** Fund Managers 2010

**Figure 14**

4.4 **Observations and Discussions**

4.4.1 Pension schemes are still growing and majority of schemes membership are still in category of less than 300 members as per findings from the questionnaire.
4.4.2 Fund value of most schemes (about 20 out of 33) in the sample lie between Kenya shillings 200 – 400 million this implies key strategies have to be employed so as to save guard members funds

4.4.3 There is a growing need of transferring or creating contributory nature of scheme, due to its flexibility, and less funding risk skewed to the employers that have designated defined benefits schemes

4.4.4 Administration, fund management and custodian costs has considerably reduced over the past five years, this is attributed to the oversight role played by the retirement Benefits Authority and general industry competition that has occasioned to system risk reduction in respect of operational cost.

4.4.5 There has been a considerable improvement in internal controls of firms entrusted in the management of pension funds due to the more training being undertaken by the industry players and the Retirement Benefits Authority.

4.4.6 Investment returns have a positive relationship with strategies employed.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The aim of the study was to compare various risk management strategies given the different investment returns reported by various schemes considering the prevailing environment. The study found out that returns can influenced by changes in risk strategies based on the various investment risk profiles as outline through the asset classes.

5.2 Conclusions

Risk management is becoming an increasingly sophisticated and central function within financial institutions. In pension industry, risk management involves the measurement and assessment of pension fund risks and the design, monitoring and revision of the fund’s parameters (contributions, benefits, and investments) in order to address these risks in line with the funds’ objectives.

The main risks that pension funds are exposed to are investment, inflation, and longevity risk. In turn, plan members are exposed to the risk that pension fund assets will be insufficient to cover benefit promises if the plan is terminated (typically, because of bankruptcy of the plan sponsor).

In order to meet the needs of both plan sponsors and plan members, risk management should have the following two goals:

- Minimizing the pension cost to contributors.
- Minimizing the risk of benefit cuts to beneficiaries.

These goals involve trade-offs between contributions, asset allocation and risk, as the objectives of the stakeholders can (and do) vary. Plan sponsors are most interested in minimizing the net funding cost of a plan by optimizing the risk-adjusted return on plan assets. Plan members usually follow multiple goals that change over time: In case of member contributions, they share employers’ goal of minimizing pension costs. As active members, they are generally concerned with maximizing their plan benefits without running the risk of losing vested benefits. Retired members usually place higher emphasis on benefit security as they have less or no time left to
make up any shortfalls. As the pension promise is ultimately backed by the employer, insolvency of the plan sponsor forms the most basic risk to beneficiaries. The use of risk management techniques has been felt most strongly in investment strategies. Two main developments have been observed in the countries covered by this study:

- A move towards greater duration of fixed income and government securities
- Greater investment in so-called alternative instruments, such as private equity and real estate

From the survey trustees appreciate the existence of risk in the pension firms. All pension firms have diversified their investment to reduce risk exposure. Pension fund regulations aim at promoting high levels of benefit security at an acceptable cost. Accounting standards in turn aim at ensuring the transparent disclosure of information to shareholders.

Some of the key variables analyzed such as the funding cost and the volatility of contributions provide an order of magnitude for the potential cost of regulations. A full cost-benefit assessment of different regulatory regimes requires comparing these costs against the benefits, in terms of greater benefit security achieved.

5.3 Limitations

Major limitation of the study was that most of the service providers of pension schemes have confidentiality undertakings and are required by contract not to disclose their clients’ information. Thus the information disclosed was as long as the client reference was not exposed to the public.

5.4 Recommendation for Policy and Practice

I recommend that great emphasis should be geared towards diversification of the asset allocation for pension schemes to mitigate underlying investment related risks while optimizing returns for pension scheme members. Strategic parameters of limits of investments for asset allocations should be considered based on the risk profiles of each asset class.
5.5  **Recommendations for Further Research**

The implication of the recent government directive, that all government pension schemes including Parastatals organizations convert from defined benefit schemes to defined contributions.

To evaluate factors considered by pension funds in deciding the appointment and dismissal of service providers (fund managers, custodian and administrators).

To evaluate factors considered by members of pension funds in appointment of scheme trustees.

Effects of the recent global financial crisis, risk management and investment strategies on pension schemes in Kenya.

Impact of governance on risk management
REFERENCES


Brinson, Hood, and Beebower published their findings on the importance of asset allocation in the July/August 1988 issue of the Financial Analysts Journal (FAJ).


Explaining Old-age and medical insurance across countries. Public Choice, (120):87-121.


Retirement Benefit Authority, (Supervisory Guideline(SG) No. 2, section 55(3) of the RBA Act)


APPENDIX I

INTRODUCTORY LETTER

University of Nairobi
School of business
P.O.BOX 30197
NAIROBI.

Dear Respondent,

REF: INTRODUCTORY LETTER

I am a student at the University of Nairobi, School of Business. As part of the fulfillment of the requirement of the MBA degree, I am undertaking management research project entitled;

“RISK MANAGEMENT STRATEGIES AND RETURNS BY PENSION FUNDS IN KENYA”

You have been selected by the study as you meet the criteria on knowledge of pension scheme risk management strategies and return on investments of your scheme. Therefore, your responses are crucial to the study in ensuring that the research objective is met.

This information is for academic purpose only. Respondents’ identities will remain strictly confidential; and the findings of this study shall, upon request be availed to you.

Otherwise it will only be availed to my supervisor for academic reasons only.

Thank you in advance

John Mwangi Macharia             Mr. Josphat Lishenga
Student                             Supervisor

51
APPENDIX II

QUESTIONNAIRE

PART A - GENERAL INFORMATION

1. **Fund Size (tick √)**
   Please indicate below the number of members of your pension plan.

<table>
<thead>
<tr>
<th>&lt; 100</th>
<th>101 – 200</th>
<th>201 – 300</th>
<th>300 - 400</th>
<th>401 – 500</th>
<th>500&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

2. **Fund Value (tick √)**
   Please indicate below the fund value of your pension plan (Kes. in millions).

<table>
<thead>
<tr>
<th>&lt; 200</th>
<th>201 – 400</th>
<th>401 – 600</th>
<th>601 - 800</th>
<th>801 –1,000</th>
<th>1,000 &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

3. **Fund Design (tick √)**
   What is your current pension plan design?

<table>
<thead>
<tr>
<th>Defined Contribution</th>
<th>Defined Benefit</th>
<th>Hybrid of DC and DB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

   Have you converted your pension plan design (from defined benefit to defined contribution) since you started your pension plan?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

   If your answer to question above is YES, please state the year that you converted

<table>
<thead>
<tr>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>
PART B- RISK MANAGEMENT STRATEGIES IN PENSION FUNDS

These questions intend to measure the role of risk management strategies employed by pension funds in Kenya i.e. Strategic Cost Management, Effective Internal Control Systems, Compliance with the Pension Legislation and Achieving Appropriate Funding Levels. Use the Key below to tick as appropriate.


Please indicate the extent to which you agree or disagree with the following statements under each category below:

4. Strategic Cost Management: (tick √)

Our administration costs have decreased considerably over the past two years


Our benefits processing period has decreased considerably over the past two years


Our compliance costs have decreased considerably over the past two years


5. Effective Internal Control Systems (tick √)

We have considerably improved our internal control system over the past two years


Our records processing system has improved considerably over the past two years

6. Compliance with the Pension Legislation (tick √)

We have been successfully complying with RBA regulations over the past two years.

Member involvement in decision-making in our plan has increased considerably over the past two years.

7. Achieving Appropriate Funding Levels (tick √)

Our funds have increased by last year.

We have experienced less under-funding (pension liabilities exceed pension assets) in our pension fund last year.

8. Exposure to Risk

1-Very Low, 2- Low, 3- Medium, 4-High 5-Very High

Our risk exposure level over the past five years (tick √)

Year 2006

Year 2007
9. Returns

1-Very Low, 2-Low, 3-Medium, 4-High 5-Very High

Our Returns over the past five years (tick √)

<table>
<thead>
<tr>
<th>Year</th>
<th>[1]</th>
<th>[2]</th>
<th>[3]</th>
<th>[4]</th>
<th>[5]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 10. Asset class and Allocation

Please tick (√)

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Asset Allocation (%)</th>
<th>Cash</th>
<th>Equity</th>
<th>Property</th>
<th>Long-term Fixed Income(Bonds)</th>
<th>Short-term Fixed Income (Bills)</th>
<th>Offshore</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21-40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>41-60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>61-80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>81-100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RBA Limit (%)</td>
<td></td>
<td>5</td>
<td>70</td>
<td>30</td>
<td>70: 30 Govt./ Corporate</td>
<td>70:30 Govt./ Deposit</td>
<td>15</td>
</tr>
</tbody>
</table>

## 11. Environmental effects


Please indicate the extent to which you agree or disagree with the following statements under each category below:
To what extent did the global financial crisis in 2007 affect your pension fund?


To what extent did the post election violence affect your pension fund in 2007?


The interest rates movement as a significant impact on the valuations of bond portfolios within pensions funds, to what extent has your pension fund been affected by the seasonality of changes in interest rates between 2009 to date.


END