THE EFFECT OF REGULATORY CONTROL CHANGES ON THE
FINANCIAL PERFORMANCE OF PENSION SCHEMES IN KENYA

BY:

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DECLARATION

This Research Project is my original work and has not been presented for a degree in any other University.

Signed __________________________ Date______

G.Kikete

This Research Project has been submitted for examination with my approval as the supervisor.

Signed___________________         Date______

C.Iraya

Supervisor
ACKNOWLEDGEMENT

My University Supervisor Mr. Cyrus Iraya deserves special mention for his contribution to this project. Right from the conceptualization of the topic through the proposal defence and to its completion, he was intellectually honest and never let me slide into the trap of ‘just doing a project to complete my masters’. Many are the times he sent me back to a near drawing board, and for this, I am grateful.

My research assistant Mr. Kiamati spent sleepless nights helping me put together a mass of data into a research project. I sincerely thank him for that.
DEDICATION

I dedicate this project to my family.

To my dad, who always set the bar high and challenged me to beat it.

To my mum, who always believed in me when my faith ran out.

To my husband, who allowed me to dream, and supported me all the way, including dealing with my limited family time with a smile.

And to my best friend, who held me accountable to complete everything I dared to start.
ABSTRACT

Regulatory controls have a significant effect on the growth of the pension schemes. This means that pension regulatory controls lead to improved financial performance and growth of the individual pension schemes. This study aimed to find out what has been the effect of the regulatory control changes passed since 2008 to date on the financial performance of pension schemes.

The study used cross sectional survey design. The population for this study were the 1216 pension schemes registered with the Retirement Benefit Authority (RBA). A sample of 10 pension schemes was selected using convenience sampling. Secondary data on the performance of pension schemes was collected from the industry reports compiled by the Retirement Benefits Authority. Analysis was performed using ratio analysis and paired sample t-tests using MS Spreadsheets and SPSS.

The results for the tests for significance of the differences in performance of the firms after the introduction of the regulatory changes show that there is a significant difference in the performance of the schemes. They show that the examined ratios were significantly influenced by the regulatory changes and since the p value is less than 0.05, there is a significant difference in the ratios before and after the regulatory changes. It also found that reducing the benefits processing period, regulating the fees charged by the service providers, and allowing access of 50% of the employer’s portion have influenced the financial performance and growth of individual pension schemes in Kenya, as measured by several financial ratios; the Scheme expense ratio, the Current ratio, the Return on Investment and Leverage.

The study concludes that regulatory changes have a significant influence on the performance of pension schemes in Kenya as the results have passed significance tests. Therefore, the various changes in regulatory controls have had a major effect on the performance of pension schemes in Kenya. It recommends that the policy makers should evaluate the regulatory changes that they propose so that the changes can be able to stimulate growth in the pension industry rather than stifle it. It also recommends that the government through the Retirement Benefits Authority should
put up strict measures to ensure that the pension schemes are observing the regulations enacted as a way of ensuring improved performance.
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<tbody>
<tr>
<td>ALM</td>
<td>Asset Liability Model</td>
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<td>CBL</td>
<td>Consolidated Bank of Kenya Limited Staff Retirement Benefits Scheme</td>
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<td>COKE</td>
<td>Coca-Cola East Africa Limited Staff Provident Fund 2004</td>
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<td>DEA</td>
<td>Data Envelopment Analysis</td>
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<td>DC</td>
<td>Defined Contribution Scheme</td>
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<td>DIRECTLINE</td>
<td>Directline Assurance Company Staff Provident Fund</td>
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<td>EBRI</td>
<td>Employee Benefit Research Institute</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GITHUNGURI</td>
<td>Githunguri Dairy Farmers Co-operative Society Limited Staff Provident Fund</td>
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<td>International Fund for Animal Welfare Staff Retirement Benefits Scheme</td>
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<tr>
<td>LAPTRUST</td>
<td>Local Authorities Pension Trust Retirement Benefits Scheme</td>
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<td>MAF</td>
<td>Mission Aviation Fellowship Staff Retirement Benefits Scheme</td>
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<td>MPT</td>
<td>Modern Portfolio Theory</td>
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<td>NBL</td>
<td>Nairobi Bottlers Limited Staff Provident Fund</td>
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<td>NSSF</td>
<td>National Social Security Fund</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>RBA</td>
<td>Retirement Benefits Authority</td>
</tr>
<tr>
<td>TARDA</td>
<td>Tana &amp; Athi Rivers Development Authority Staff Retirement</td>
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Benefits Scheme

THARAKA  Tharaka Nithi Teachers Sacco Limited Staff Provident Fund
CHAPTER ONE: INTRODUCTION

1.1 Background of the study

The issue of pension has received much attention in many countries over the past decades. In fact, in recent times, pension has increasingly attracted the attention of policy makers in many countries as a means of facilitating privately funded retirement income savings by an ageing workforce (World Bank, 2005). Many countries have opted for various forms of contributory pension scheme where employers and their employees are supposed to pay a certain percentage of the employee’s monthly earnings to a retirement savings account from which they would be drawing their pension benefits after retirement. Besides, pension funds are now among the most important institutional investment in the world’s capital markets (Klumpes and Mason, 2000).

Pension funds are the principal sources of retirement income for millions of people in the world (Sze, 2008). Retirement income accounts for 68% of the total income of retirees in Kenya (Kakwani, Sun and Hinz, 2006), 45% in Australia, 44% in Austria and 80% in France while in South Africa 75% of the elderly population rely on pension income (Alliance Global Investors, 2007). In the United States of America 82% of retirees depend on pension income (EBRI, 2007). Pension funds should therefore be managed efficiently to ensure higher retirement income for pensioners. Most people depend on their pension funds as a source of income when they retire.

Funded pension systems have in the recent past gained popularity since they contribute to the economic growth of countries worldwide through direct contribution
to the GDP (Watson, 2007), financial market development (Davis, 2005; Yermo, 2008), reducing old-age poverty (Kakwani, Sun and Hinz, 2006) and acting as consumers of financial services (Heijdra, Ligthart and Jency, 2006). The growth of funded pension systems has led to the increase in domestic savings in Africa. Dovi (2008) documents that between 1998 and 2007 the savings increased from 17.8% to 22.1% of the GDP in Sub-Saharan Africa and from 21% to 30% of the GDP in Northern Africa as a result of embracement of the funded pension systems. The pension system has further reduced the poverty trap ratio by 13% in South Africa and increased the income of the poorest 5% by 50% (Stewart and Yermo, 2009). In Kenya, the pension system contributes to an estimated 68% of the total income of retirees (Kakwani et al, 2006) and controls wealth estimated at Ksh. 397 billion, the equivalent of 30% of the country’s GDP (RBA, 2013).

1.1.1 Regulatory Control Changes

In Kenya, the pensions or retirement benefit schemes are regulated separately from life assurance. The Retirement Benefits Authority (RBA) regulates, supervises and promotes retirement benefits schemes, development of the retirement benefits sector and other connected establishments. This regulatory authority is established under the retirement benefits Act of 1997. The Retirement Benefits Act defines Retirement benefit schemes as “any schemes or arrangements (other than a contract for life assurance) whether established by a written law for the time being in force or by any other instrument, under which persons are entitled to benefits in the form of payments, determined by age, length of service, amount of earnings or otherwise and payable upon retirement, death, termination of service, or upon the occurrence of such other event as may be specified in such written law or other instrument.” Thus pension schemes can be seen as facilitators of deferred wages, with unique features
such as monetary payment of specified amounts in advance for specified/unspecified period of payment (Mworia, 2000).

Upon its establishment, the RBA was mandated by law to “regulate and supervise the establishment and management of pension schemes” that preceded its existence and those that were to be formed thereafter. In addition, it was expected to promote the development of the retirement benefits industry through the enactment of regulations for schemes to use in managing the contributor’s funds. Tied to this is the goal of protecting the interest of members who contribute to the schemes that have been licensed. Protection of the members of specific schemes was important because of the public concern that some retirement schemes were run poorly (RBA, 2013).

The establishment of the RBA has begun to regularise the operation of schemes within the retirement benefits and pension industry in Kenya. This development has made the industry to face new challenges emerging from various aspects. However, these policy challenges have been clearly understood and must be addressed promptly within a comprehensive policy setting benchmarks for the development goals that the industry is expected to achieve. While there are challenges related to the overall macroeconomic growth, expectations remain high that the RBA regulations will give way to a healthy policy environment for the industry (Machira, 2004).

In an attempt to circumvent these challenges, the Regulatory Authority has over time introduced various changes to the regulatory controls. These changes in regulatory controls are intended to streamline the operations of pension schemes in terms of governance in order to improve their financial performance and growth in general. Some of these changes include the reduction of the period of benefits payments to
retirees from 60 days to 30 days as a way of reducing the waiting period that members have to go through before they can be paid their benefits. Another change is the control of fund expenses which limits it to 2.5 per cent of the total contributions. This serves to reduce wastages of pension funds to running costs. Another important change is the access to 50% of the employer portion of benefits when one leaves a particular scheme, before retirement. This may have a negative effect on the performance of the scheme as it means a reduction in the amount available for investments every now and then thereby affecting their portfolio returns (Kipkoech, 2012).

1.1.2 Financial Performance of Pension funds

Pension funds are a set of payment promises in favour of the plan that are protected by property rights. For the purpose of this study, pension is defined as a sum of money paid regularly by the state or by trustees of a scheme to an employee upon normal or ill-health retirement. Various studies were reviewed in line with investment of pension schemes. It is important to note that the studies are mainly foreign with a few local ones. In a study by Mghali (2003), it was concluded that firms should conduct pension schemes where the employer contributes a certain percentage together with the employee contribution and then this is invested by trustees who should control the fund. Mugweru (2001) in his study on National Social Security Fund (NSSF) recommended that the investment department at NSSF should consist of professionals who adhere to proper investment policies and procedures.

Pension funds are playing an increasingly important role as both channels for retirement savings and as intermediaries in financial markets. This combined role
makes them a prime concern for governments and regulators from a variety of perspectives. Pension funds, however, are by their nature subject to potential conflicts of interest arising between the fund administrators and the ultimate beneficiaries of the fund. Pension funds, therefore, require a set of internal statutes and external regulations to ensure that they are managed in the best interest of their beneficiaries. The balance between internal statutes and external regulations is a delicate one, and depends largely on a country’s social and legal structure (Mugweru, 2001).

Studies on the performance of pension funds either use financial ratio analysis (Delebohn, 1995) or compare the pension fund returns with the market indices (Bikker and Dreu, 2009). The use of Data Envelopment Analysis (DEA) has however been documented as a more superior technique of analysis of efficiency (Barros and Garcia, 2006) since it enables the ranking of the institutions being evaluated and generates scores for inefficiencies. Very few studies have used DEA to measure pension fund efficiency.

1.1.3 Regulatory Control Changes and Financial Performance of Pension Schemes

Regulatory control changes involve controls on corporate governance, access to pension funds, investment of funds and running costs of schemes. Since the coming into effect of the Retirement Benefits Act and other regulations, the management of pension schemes has become more structured and organized. However, it is questionable whether this has translated into an improvement in the financial performance of the schemes. This is because the regulations have also brought about some limitations on the operations of pension schemes and an increase in administrative costs. It is the financial performance that determines the financial
health of a pension scheme and its ability to pay all benefits as and when they fall due. Research has shown that there have been significant positive effects on the financial performance of occupational retirement benefit schemes in the period in which the regulations have been in place (Kusewa, 2007).

According to Kipkoech (2012), regulatory controls exert a significant relationship on the growth of the pension schemes. This means that pension regulatory controls lead to improved financial performance and growth of the individual pension schemes. Further, he posits that reducing the benefits processing period, providing relevant education to the trustees, maintaining an appropriate internal control system, communicating regularly with members, defining the roles of the trustees clearly, regulating the fees charged by the service providers, controlling default risk on the part of the sponsor and implementing investment strategies that are major factors that influence the financial performance and growth of individual pension schemes in Kenya.

1.1.4 Pension Schemes in Kenya

In spite of the demographic and economic differences that exist among nations, it has now become evident 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, 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 (Njuguna, 2010).

While it is readily conceded that the retirement benefits and pensions industry in Kenya has been growing, there is the greater challenge of raising the savings rate above the present average of 8-9%. While this is an altogether important concern, it is also recognized that the level is determined largely by the fact that Kenyans have grown progressively poorer over the last decade. It could therefore be surmised that it is not exactly possible to raise the proportion of incomes that Kenyans may save when they are unable to meet even basic needs (Njuguna, 2010).

Security against poverty in old age would be better guaranteed through a pension system by which a person draws out a monthly sum as benefits until death. One problem with NSSF arises from the low value of the benefits received from this scheme, which bear no relation to economic realities. This is mainly due to insignificant size of contributions paid into the scheme. Currently there is a debate on whether Kenya's state run retirement benefits provider, the NSSF should be converted from a provident fund into a pension scheme that will afford its members greater old age security. Such a change would be of great importance in boosting old age security in Kenya given the wide reach of the NSSF (Kusewa, 2007).

1.2 Research Problem

A lot of people rely on their pension funds as a source of income after retirement. Retirement income accounts for 68% of the total income of retirees in Kenya (Kakwani, Sun and Hinz, 2006), 45% in Australia, 44% in Austria and 80% in France, while in South Africa 75% of the elderly population rely on pension income (Alliance
Global Investors, 2007). In the United States of America 82% of retirees depend on pension income (EBRI, 2007). It is therefore clear that pension funds should be managed efficiently to ensure higher retirement income for pensioners. Better governance and management of pension funds will lead to better performance and therefore better returns to both the fund managers and the pensioners. Pension funds, like many other organisations, can be viewed as open systems which receive inputs, convert these inputs into outputs and deliver these outputs to stakeholders. Pension funds receive inputs (scarce financial resources in the form of contributions and investment funds) and convert these inputs to outputs (pension fund value and retirement benefits) (Davis, 2005).

A pension fund would be regarded as efficient if it succeeds in maximising financial outputs by the efficient use of the financial resources (inputs) (Chansarn, 2005). It is clear 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 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, 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 financial performance of pension funds in Kenya is guided by the regulatory controls that have been put in place by the government. The main regulatory control that governs the operations and performance of pension funds in Kenya is the Retirement Benefits Act enacted in 1997 (Njuguna, 2010).
An empirical search for literature on the effect of the regulatory controls on the financial performance of the pension schemes in Kenya revealed that several studies have been carried out but the findings have not been conclusive enough. Ndirangu (1997) studied the implications of Retirement Benefits Act (1997) on investment performance of provident pension funds in Kenya. Njuguna and Arnolds (2010) carried out a study on improving the financial efficiency of pension funds in Kenya. Rono, Bitok and Asamoah (2010) assessed the effect of Retirement Benefit Act on investment returns to pension funds in Kenya. Karisa (2008) carried out a survey of the effect of the Retirement Benefits Act, 1997 on pension funds investment portfolio. Kiprotich (2012) studied the determinants of Retirement Benefits Schemes Financial Performance in Kenya. These studies have not been comprehensive enough and their findings have been conflictive in some instances. Most of these studies were carried out immediately after the enactment of the regulatory control changes and therefore did not allow for enough time to determine the effects of the changes on performance.

There is therefore a gap in literature as far as a study on the effect of regulatory control changes on the financial performance of pension schemes in Kenya is concerned. This is the gap that this study seeks to bridge. The following research question was therefore explored: What is the effect of regulatory control changes on the financial performance of the pension schemes in Kenya?

1.3 **Objective of the study**

To evaluate the effect of regulatory control changes on the financial performance of the pension schemes in Kenya.
1.4 Value of the study

The study is of significance to the government in the sense that Kenya has faced various changes related to the pension industry due to the development of the Retirement Benefits Authority. Understanding the effects of these changes is important in helping the government to stimulate growth of the pension industry and returns for the same industry.

The findings of this study are significant to academicians in that they add to the knowledge of the researchers in this field of study.

The findings are also significant to policy makers in that they serve as a guide to them when making government policies related to the pension industry.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review. First, a theoretical review is provided focusing on theories that explain the issues of corporate governance in general and in relation to pension schemes and how it affects performance of the schemes. Secondly, the empirical review of the studies that have been done on the effects of regulatory control changes on the financial performance of pension schemes is made. The research gap is then provided.

2.2 Theoretical Review

This study will be based on three main theories. These are the Agency theory, Modern Portfolio Theory and the Life Cycle theory, as discussed below.

2.2.1 Agency Theory

Agency theory is a leading theory with which to analyse corporate governance (Hess and Impavido, 2003; Keasey et al., 2005). Agency theory deals with the problem of one person (an agent) acting on behalf of another (the principal). With delegation of authority to the agent, the agent may take actions that are not in the principal’s best interests (i.e., acts of self-interest on the part of the agent) but that are unknown to the principal (Hess and Impavido, 2003). Thus at the heart of agency theory there is imperfect information and a separation of ownership and control. Also central to agency theory are other fundamental assumptions such as: contracting parties having various conflicts of interests; individuals being self-interested and opportunistic; uncertainty; and incomplete contracting (Hess and Impavido, 2003). This section will look at the agency problems that exist in pension funds.
In pension funds the antagonism between ownership and control does not apply in the same way as in public corporations (Nocker, 2000): ‘neither the ‘owner’ nor the ‘controller’ of a pension fund can be clearly identified’ (Nöcker, 2000). The trust form of pension funds implies that the members of a scheme can be associated with the ‘shareholders’ of a company. Reaching out for the controllers of an occupational pension fund, one is tempted to point straight away to the trustees. However, the employer usually exercises significant control over the pension trust by retaining powers to amend the trust deed, replace trustees and veto certain matters. Control is therefore jointly exercised by the trustees and the employer; taken together they can be compared to the management of a company. Thus if pensions governance is to look at a relationship of contested control, it is to oppose the trustees and the employer together to the employees (Nocker, 2000).

Historically trustees have had considerable discretion (in the scope of decision making) when exercising their responsibilities. This discretion provides an opportunity for plan-specific efficient and equitable solutions to retirement income provision. The scope of discretion however foreshadows the principal-agent problem just as trustee responsibility could be understood in terms of the moral hazard problem’ (Clark, 2004). As a consequence, all pension funds are exposed, in one way or another, to agency risks (Rocha et al., 1999) and there is a significant premium associated with the proper internal governance of pension funds (Clark, 2004) to ensure that beneficiaries are protected from conflicts of interest and agency problems (OECD, 2000).

The most immediate and obvious agency risk that pension schemes face is the potential for fraud, misfeasance, malfeasance, or outright theft of assets’ (Rocha et al.,
1999) as the Maxwell case in the UK shows. In addition, agency relationships can ‘occur in other ways. Asset managers of pension funds could use the fund to support issues of securities underwritten by the parent organisation. There is also a danger that the members of the governing body may improperly use the privileged or confidential information that they have obtained through the administration of the pension fund. Agency risks can also take more general forms, such as slack by employees, or failure to maximise the performance of a pension fund as a result of misunderstandings or other operational features’ (OECD, 2000). Thus, agency problems are rife in pension funds and it is therefore important that pension fund sponsors have ‘an understanding of agency theory and the various mechanisms to control the agency problems that potentially exist. This will allow pension fund sponsors to adopt the optimal governance tools at the lowest administrative cost (Hess and Impavido, 2003).

Pension funds are heavily regulated and so the Government plays a key role in pension scheme governance (Caprio and Levine, 2002). ‘The regulation of the pension industry it partly driven by the promotion of resource mobilisation and allocation through a framework that ensures transparency, security and stability, minimises costs, and one that promotes sound investment decisions (along a range or permissible risk-return combinations). Also by considering the unique characteristics of these institutions, which derive from the special role that they play in advancing key social policy objectives, such as the provision of retirement income’ (Rocha et al., 1999).

The regulation of pension funds ‘is primarily concerned with information disclosure, monitoring, auditing and enforcement through the courts. In Kenya, regulation imposes limited capital requirements that are, as far as is practical, risk based,
together with detailed rules regarding conduct of business and best practice’ (Mayer, 2001), which largely seek to protect the plan participants from those who control their assets (Clark, 2006). It is important for trustees to understand pension regulations because their specific duties may be stated in the legislation, the plan rules and the fund statutes. Therefore, whilst acting according to the plan rules and fund statutes, they must also act within the framework of the law (OECD, 2000).

This theory is relevant to this study because the Trustees (who are in charge of managing the schemes in terms of ensuring compliance to the regulations and delegating the custodial, administration and investment roles to competent service providers to make decisions that will best enhance the members returns), act in an agent capacity to the fund, and its ultimate beneficiaries.

2.2.2 Modern Portfolio Theory

Modern portfolio theory originated with the work of Markowitz (1952), who recognized that by combining assets that are not perfectly correlated (for example, assets whose returns do not move in complete unison with each other) an investor could reduce his or her investment risk without reducing expected returns. It is theoretically possible to derive a portfolio of risky assets that returns the smallest amount of risk for a given return. Modern portfolio theory (MPT) is a theory of finance that attempts to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. Although MPT is widely used in practice in the financial industry and several of its creators won a Nobel memorial
prize for the theory, in recent years the basic assumptions of MPT have been widely challenged by fields such as behavioural economics.

MPT is a mathematical formulation of the concept of diversification in investing, with the aim of selecting a collection of investment assets that has collectively lower risk than any individual asset. This is possible, intuitively speaking, because different types of assets often change in value in opposite ways. For example, to the extent prices in the stock market move differently from prices in the bond market, a collection of both types of assets can in theory face lower overall risk than either individually. But diversification lowers risk even if assets' returns are not negatively correlated indeed, even if they are positively correlated. Fund managers therefore diversify their investments in a move to make sure that the returns to the pensioners are maximised (Litner, 1965).

This theory is important in the management of pension funds in that it guides the fund managers on the diversification process, which they must do within the confines of the prevailing regulations.

2.2.3 Life Cycle Theory

This life-cycle theory of saving and retirement is not a complete model of saving and retirement behaviour. There are several influences that it does not incorporate. For example, people may engage in precautionary saving to guard against income shocks, and they may also save to provide bequests (Skinner, 1985). In addition, whereas in many developing countries the elderly are supported to a large extent by intra-family transfers, in many industrial countries the elderly derive considerable support from social security systems. These transfer systems clearly affect incentives to save and to retire. Notwithstanding its limitations, the life-cycle model can provide valuable
insights into behaviour. In addition, optimal decisions by individuals with complete markets generate an efficient outcome that can be used to guide policy even under market imperfections.

The formal life cycle model makes a number of simplifying assumptions. We assume that the mortality schedule is exogenous, which ignores the possibility of using consumption and health services to extend longevity (Ehrlich and Chuma, 1990) or of a reverse link from labour supply to health status and life expectancy. In the interest of simplicity, we also assume that the life cycle has no period of schooling. Schooling will affect the productivity of workers, their health and longevity, and their utility of leisure (Heckman, 1976) complicating a retirement - consumption model.

This theory is relevant to this study because the setting aside (contributing) and investment of funds is done through the working life of a member, to secure them a comfortable retirement when their income gets cut off at retirement. As much as the amount saved (and eventually withdrawn at retirement) depends on the income earned from active employment, it is ideally meant to sustain a member during their sunset years and their dependants for a considerable time when the member passes on.

2.3 Measures of Financial Performance in Pension Funds

The traditional approach of performance of pension funds has put excessive emphasis on short rates of return. Because the objective of mandatory second pillars is to ensure adequate retirement income to individuals, monthly or annual returns of pension are not totally meaningful if they are not measured against a benchmark or against an objective. In addition, once the alternatives faced by investors are different,
international comparisons of returns or other measures of performance such as the Sharpe ratios might not be totally meaningful. Some policy makers might be less interested in the performance measurement because they expect the market to provide the optimal asset allocation. Also, some governments have the implicit belief that the presence of competition in open DC pension systems helps to optimize the pensions of individuals. Pension fund managers will compete for funds, and individuals will select pension funds that optimize their own risk-reward preferences (Walker, 2006).

This competitive model assumes that contributors have the ability to identify factors that will determine the capacity to provide retirement income, evaluate the investment performance of pension funds against these factors and make choices that optimize outcomes in relation to their individual circumstances. In practice, these factors are not readily available or easily understandable by the typical contributor. The information that is provided is usually limited or is a proxy for the relevant factors and, when available, is not easy to understand for most members (Campbell and Viceira, 2002).

In addition, considerable evidence exists of inertia, decision avoidance, and excessive risk aversion by participants in making choices. Because of the complexity of defining the optimal portfolio allocation, some governments have promoted other sources of competition, which may be irrelevant to the long term financial performance of funds. Some countries have considered mandating higher levels of information to the public to improve the capacity of contributors to make informed decisions, but these efforts could be wasted because contributors have a limited capacity to understand the complexities of the systems. This problem may be solved in part by improving the financial literacy of individuals, but it may take decades
before the average contributor is in a position to make an informed decision about his or her asset allocation (Walker, 2006).

In the absence of more relevant long-term measures of performance, the existing emphasis on short-term returns creates incentives for pension fund managers to focus their efforts on maximizing short-term returns. However, the funds with better short term performance are not necessarily those best aligned with the long run performance of a pension system. The literature on strategic asset allocation provides numerous examples of cases where short-term asset allocation conflicts with longer term objectives, including selection of the risk-free asset, international portfolio diversification, and currency hedging strategies. In general, no assurances can be given that competition in the short-term will result in long-term optimal asset allocation (Campbell and Viceira, 2002). Regulatory restrictions on pension fund performance, such as the minimum return guarantee, may create additional disturbance in the equilibrium portfolio allocation that is reached in a competitive framework.

For the sake of this study financial performance was based on several financial ratios namely the Current ratio, the Expense ratio, Return on Investment and Leverage.

2.4 Empirical Review

Exley, Mehta and Smith (1997) carried out a study on the financial theory of defined benefit pension schemes. This study begins by analysing corporate pension provision from the perspective of such financial theory. The results of this analysis are then reconciled with the sometimes contradictory messages from traditional actuarial
valuation approaches and the alternative market based valuation paradigm is introduced. The paper then proposes a successful blueprint for this mark-to-market valuation discipline and considers whether and how it can be applied to pension schemes both in theory and in practice. It is asserted that adoption of this market based approach appears now to be essential in many of the most critical areas of actuarial advice in the field of defined benefit corporate pension provision and that the principles can in addition be used to establish more efficient and transparent methodologies in areas which have traditionally relied on subjective or arbitrary methods. They extended the hope that the insights gained from financial theory can be used to level the playing field between defined benefit and defined contribution arrangements from both corporate and member perspectives.

Srinivas and Yermo (1997) assessed the effect of regulatory regimes on the market performance of private pension funds in Latin American Countries (LAC) that have undertaken reforms of their pension systems. They focused, in particular, on the effects of “draconian” regulations, a set of rules on the industry’s structure, investment regime and performance. The paper developed an intuitive analytical methodology for benchmarking performance in defined contribution systems. Expected replacement rates for workers of different demographic characteristics were calculated based on historical rates of return of pension funds and alternative investments. It was shown that the poor past performance of the Chilean pension funds relative to market alternatives have created significant differences between the expected replacement rates of the pension system and the replacement rates that could have been expected under a more liberal investment regime. The study recommended that while the rules have achieved their basic objectives of safeguarding workers’
retirement savings from financial systems that lack transparency and solidity, the rules are not without costs. They create distortions in asset management, limit opportunities for diversification, and, as a consequence, hamper the performance of pension funds. The study also recommended that the existing regulatory regimes should be liberalized as soon as possible to allow pension fund investments in a wide array of financial instruments, and that regulations should require evaluation of pension fund performance against market benchmarks as opposed to exclusive focus on comparison with industry average.

According to Vittas (1998) and Queisser (1998) “The main adverse effect of performance regulation is to exacerbate herding behavior” with small fund managers behaving like Stackelberg Followers (Laffont and Tirole, 1988), choosing portfolios similar to larger funds, which have greater weight in the industry average return.

Davis (2002) examined the potential and actual role played by international investment in pension fund management. The paper draws largely on experience of a range of OECD countries and selected emerging market economies with established funded pension systems, although it also provide estimates for Trinidad and Tobago, and for Jamaica. It is shown that international investment allows superior investment performance in terms of risk and return, and pension funds are well placed to take advantage of the benefits, but they typically hold low proportions of foreign assets in their portfolios. Whereas some degree of “home bias” is likely to occur naturally, it is undesirable for regulations to enforce tighter limits on foreign assets than these market forces would suggest. The arguments favouring regulatory restrictions are weak. The future of funding itself seems likely to be turbulent, given the growing scope of asset flows and the future decumulation when ageing accelerates in OECD
countries. These developments do not negate the case for international investment, but they do suggest a need to retain elements of a pay-as-you-go system, as a form of insurance.

Blome, et al., (2007) provides a stylised assessment of the effect of investment-relevant pension fund regulations and accounting rules on contribution and investment strategies within the context of an asset-liability model (ALM) specifically designed for this purpose. The analysis identifies a substantial effect of regulations which, in a simplified way, resemble those in place in Germany, Japan, the Netherlands, United Kingdom and the United States. The ALM model shows that regulations affect funding costs primarily through the choice of investment strategy. Strict funding regulations may force sponsors to make up funding shortfalls in bad economic times and lead them to invest more conservatively, which ultimately raises net funding costs. The paper also shows that fair value accounting standards (with immediate recognition of actuarial gains and losses) can contribute to higher funding levels than required by regulators.

Rono, Bitok and Asamoah (2010) assessed the effect of Retirement Benefit Act (RBA) on investment returns to pension funds in Kenya. This study focused on the analysis of the effect of RBA guidelines on the return on investments of both pension funds under management and those for pension schemes. A random sample of 175 fund trustees and a census of 13 fund managers from registered fund management companies participated in the survey. The questionnaire was administered through the drop-and-pick method. Data were analyzed using SPSS (Statistical Package for Social Sciences) and summarized in descriptive statistics, such as mean, standard deviation, frequencies, percentages, and t-tests for mean differences were used. The study
determined that annual investment return for retirement benefits schemes in the past three years ranged between 10 and 27.52%, sometimes falling below the annual inflation. The Kenya pension funds are in compliance with the prescribed broad guidelines with regard to maximum percentages of total asset value of fund by the RBA Act. They are, however, moderately in compliance with the regulations requiring that that they maintain an actuarial solvency of 80% and above. The overall weighted returns before the implementation of RBA Guidelines was low (average scale of 1.9) while the weighted returns after the implementation of RBA Guidelines was high, at an average scale of 3.7. An analysis of the trend, however, showed that long-run performance has slowed down. The highest growth was realized for mortgage and cash returns as opposed to rights issues and bonus shares. There is need to fashion out the appropriate mix of reforms suitable for Kenya that will ensure the long-run sustainability of its pension systems.

Njuguna and Arnolds (2010) carried out a study on improving the financial efficiency of pension funds in Kenya. The sample consisted of 362 pension funds drawn from the Kenyan Retirement Benefits Authority register. The empirical results from the study show that pension fund governance, leadership and regulations do not influence the financial efficiency of these funds. The results however reveal that fund size is the most important determinant of financial efficiency of the pension funds investigated in this study.

Njuguna (2010) carried out a study on strategies to improve pension fund efficiency in Kenya. The primary objective of the study is to investigate ways of enhancing pension fund efficiency by establishing the determinants of such efficiency. More specifically, the study explores the effect that the organisational culture, regulations,
investment strategy, ethics, risk management, design, size and the age profile of members of pension funds exert on the efficiency of these funds. A sample of 749 pension funds was drawn from the Kenyan Retirement Benefits Authority (RBA) register. The sample selection was based on the criterion that these pension funds should have been in existence within the period 2001 to 2008. Seven hundred and forty-nine (749) questionnaires were mailed to the trustees of these pension funds. Three hundred and sixty-two (362) usable questionnaires were returned, which translated into a response rate of 48.3 per cent. Except for financial efficiency, self-constructed instruments based on secondary literature reviews were used to measure the variables in the hypothesised model to improve pension fund efficiency. Appropriate steps were taken to ensure the validity and reliability of these measuring instruments. The empirical results revealed that leadership, governance, regulations, design, membership age and size of funds had no significant influence on operational efficiency of these funds.

The results further showed that the membership age, design, regulations and operational efficiency of pension funds exerted no significant influence on their financial efficiency. The results also revealed that the membership age, size and design of pension funds did not influence how these funds were led by their leadership. The empirical results however showed that smaller pension funds were perceived to exhibit better financial efficiency, while pension funds with membership aged 31 - 40 were perceived to be better governed compared to other age groups. Finally, in rigorous structural equation analyses, no significant relationships were found between fund regulations (independent variable), on the one hand, and fund governance and leadership (dependent variables), on the other hand. Use of simple
linear regression however disclosed a significant positive relationship between the afore-mentioned independent variable and dependent variables.

Njuguna (2011) carried out a survey of the determinants of pension governance in Kenya and also recommended measures that can strengthen it. The sample consists of 362 pension plans in Kenya. Statistical tests are conducted by use of Pearson correlations, regressions, Scheffé tests and Analyses of variance (ANOVA) to determine the effect that pension regulations, pension plan design, membership age, number of members in the pension plan and plan leadership, have on pension governance. Empirical results show that pension governance is influenced by pension regulations, leadership, and membership age. The pension plan design and number of members do not have significant influence on how the pension plans are governed.

Anderson-Neita (2012) studied the effect of investment regulation on the performance of private pension funds in Jamaica. This paper answers the question of whether investment regulations compromise the performance of private pension funds in Jamaica. The Jamaican case is an area lacking research on this particular topic. Most empirical literature in this area place their focus on Latin American Countries. The main finding of this paper is that even though the regulations to some extent safeguard the assets of pension funds and secure the retirement benefits to be enjoyed by members, they tend to place a limit on the potential earnings of pension funds, which could yield even a much greater benefit for members. The performance of the funds becomes particularly important for members in Defined Contribution Plans in which members accept the risks, unlike a Defined Benefit Plan, in which the members are guaranteed a particular pension benefit irrespective of the performance of the pension fund.
Kowalewski (2012) carried out a study that provides new evidence on the effect of governance on the performance of privately defined contribution pension plans. Using a hand collected data set on governance factors the study shows that the external and internal governance mechanisms in pension plans are weak. One explanation for this weakness is the potential conflict between the pension beneficiaries and the fund’s owner, which depends on who bears the investment risk in the pension plan. Hence, different governance factors are found to be important for pension fund return on invested assets and also for its economic performance. Consequently, the overall policy conclusion is that more focus should be put on the governance of the pension funds, taking into account the different interests of the beneficiaries and owners as it may determine their performance.

2.5 Summary of literature review

The chapter has presented the theories that will be used to guide the study. These theories are the Agency Theory, Modern Portfolio Theory and the Life Cycle Theory. These have been discussed in order to shed light on the incentives of fund managers to follow the set regulations in order to ensure that their pension schemes offer attractive returns to the pensioners. A review of studies that have been done on the same has also been presented in order to understand the various views by researchers in previous studies. These studies show varying results as well as conflicting results in some cases. There is therefore a gap as far as a study on the effect of regulatory control changes on the financial performance of the pension schemes in Kenya is concerned. This is the gap this study sought to bridge.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methods that were used in the collection of data pertinent in answering the research questions. It is divided into research design, population and sample design, data collection, and data analysis methods.

3.2 Research design

The study used cross sectional survey design. This design has been used by World Bank in follow up assessments of pension reforms in foreign countries such as Sweden, Ontario and Canada (Mikula, 2000). A survey research attempts to collect data from a population and describes existing phenomena by assessing perceptions, attitudes, behaviour or values. Moreover, it explores the existing status of two or more variables at a given point in time.

3.3 Population of Study

The population for this study were the 1216 pension schemes registered with the Retirement Benefit Authority, RBA. The pension schemes provided insight information on the level of compliance to the RBA investment and administrative guidelines and its effect on financial performance.
3.4 Sample

Convenience sampling was done to select the pension schemes currently operating in Nairobi County. This was done for convenience purposes. It was further conducted to come up with a sample size of 10 pension schemes whose financial information for the period of study was readily available. This was considered an appropriate sample size.

3.5 Data Collection

For purposes of this study, secondary data was used. Data was in the form of financial results for a period of up to 5 years before and after the change in regulation. Secondary data was obtained from websites of the various pension schemes, the Central Bank as well as that of the RBA. The financial statements were also used as sources of financial data.

3.6 Data Analysis

The collected data was analyzed using MS Spreadsheets and Statistical Package for Social Sciences 20 (SPSS). The analysis was done using financial ratio analysis that compared the ratio up to five years before and a similar period after the regulation change, to assess the effect of the change.

The changes in regulatory controls that were assessed were;
3.6.1 Access to Retirement Funds

Access to retirement benefits (the scheme rules provide that where a member leaves employment after three years, the member shall be entitled to elect whether he desires immediate payment of his benefits or whether such payment should be made upon attaining the specified retirement age. A member who elects to access his retirement benefits shall be entitled to— (a) his amount of contribution to the scheme together with the investment income accrued thereon; (b) up to 50% of the employer’s contribution to the scheme together with investment income accrued thereon and the remainder of the employer’s contribution together with investment income accrued thereon shall be payable upon attainment of the retirement age.)

This is in line with the life cycle theory whereby as members are in active employment, they should save for retirement. However allowing them to access up to their entire employee portion and half of the employer portion of their total funds every time they change employers (before retirement) may compromise the funds available to them at retirement, since there is no guarantee that when they withdraw the funds in between they will invest it.

This regulation change came into force in 2010; therefore the analysis covered a period of 2007, 2008, 2009, 2010, 2011 and 2012 being 3 years before the change and 3 years after. Prior to 2010 a member could only access 100% of their employee portion and defer the employer portion till they attain retirement age.
3.6.2 Period of Payment of Retirement Benefits

The period of payment of benefits to retirees was reduced from 60 days to 30 days. This means that the scheme must hold more liquid assets in order to make payments on shorter notice thereby reducing the amount of funds available for investments, and the opportunity to hold a lot of assets in longer term investments that may earn better returns. This is in line with the modern portfolio theory whereby as the fund managers choose the portfolios to spread the assets, they are limited by the fact that when members leave, they will have to withdraw their funds within 30 days.

This regulation change came into force in 2009; therefore the analysis covered a period of 2005, 2006, 2007, 2008, 2009, 2010, 2011 and 2012 being 4 years before the change and 4 years after. Prior to 2009 a scheme was allowed to pay members’ benefits within 60 days of notice of leaving the scheme, whether through retirement, death, permanent disability or transfer.

3.6.3 Running Costs of the Scheme

Running costs for the scheme (drawn from the member contributions) which were in 2008 controlled not to exceed 2.5% of the total fund value of the scheme.

This supports the agency theory whereby the parties to a scheme (trustees, fund manager (s), custodian (s) and the administrator) act as agents to the scheme and should not draw from the fund fees that will be a burden on the ultimate owners of the scheme (the members).
This regulation change came into force in 2008; therefore the analysis covered a period of 2005, 2006, 2007, 2008, 2009, 2010, 2011 and 2012 being 5 years before the change and 5 years after. Prior to 2008 there was no control on scheme expenses.

Each of the changes in regulation was assessed in terms of its impact on the financial performance to determine whether it has led to a significant change in the financial ratios. Data presentation was in the form of descriptive statistics such as frequency distribution, percentages and tables.

The following ratios were analyzed to assess financial performance;

**Expense Ratios**

Scheme Expense Ratio = \( \frac{\text{Administration Expenses}}{\text{Total Expenses}} \)

**Profitability Measures**

Return on Investments = \( \frac{\text{Investment Income}}{\text{Average Investments}} \)

**Liquidity Ratios**

Current Ratio = \( \frac{\text{Current Assets}}{\text{Current Liabilities}} \)

**Measures of Financial Distress or Vulnerability**

Leverage = \( \frac{\text{Total Liabilities}}{\text{Total Assets}} \)
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 effects of regulatory control changes on the financial performance of the pension schemes in Kenya. The secondary data that was used was based on the variables of the study and was intended to meet the objective of the study. The analysis was done as below.

4.2 Ratio Analysis

Various ratios were evaluated in order to arrive at the differences in value for the two periods (before and after the regulatory changes). The following sections present these results.

4.2.1 Scheme Expense Ratio

Table 4.1 below shows the results for the scheme expense ratio before and after the regulatory changes. The results show that the expense ratio before regulatory changes averaged 0.6948 with a standard deviation of 0.2281. During the same period, the ratio ranged from 0.4444 to 0.8812
Table 4.1: Expense Ratio

<table>
<thead>
<tr>
<th>Pension Scheme</th>
<th>Before regulatory Changes</th>
<th>After Regulatory Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>LAPTRUST</td>
<td>.8085</td>
<td>.1985</td>
</tr>
<tr>
<td>NBL</td>
<td>.3274</td>
<td>.3785</td>
</tr>
<tr>
<td>CBL</td>
<td>.4670</td>
<td>.5395</td>
</tr>
<tr>
<td>IFAW</td>
<td>.8527</td>
<td>.2027</td>
</tr>
<tr>
<td>DIRECTLINE</td>
<td>.8326</td>
<td>.1986</td>
</tr>
<tr>
<td>GITHUNGURI</td>
<td>.7859</td>
<td>.1899</td>
</tr>
<tr>
<td>MAF</td>
<td>.6896</td>
<td>.1579</td>
</tr>
<tr>
<td>TARDA</td>
<td>.8313</td>
<td>.1987</td>
</tr>
<tr>
<td>THARAKA</td>
<td>.8046</td>
<td>.1924</td>
</tr>
<tr>
<td>COKE</td>
<td>.5486</td>
<td>.0246</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td>.6948</td>
<td>.2282</td>
</tr>
</tbody>
</table>

Source: Audited Financial Statements 2005-2012

After introduction of regulatory changes, the results show that the ratio ranged from a minimum average of 0.6539 to a maximum average of 0.7978 from 2009 to 2012. The ratio has a mean of 0.7311 and a standard deviation of 0.1050 in the same period.
Table 4.2 below shows the results for the Return on investments before and after introduction of the regulatory changes. The results show that ROI ranged from 0.04336199 to 0.07785008 for the period. The results also show that ROI averaged 0.066582256 and had a standard deviation of 0.01654.

**Figure 4.1: Expense Ratio**

**4.2.2 Return on Investments (ROI)**

Table 4.2 below shows the results for the Return on investments before and after introduction of the regulatory changes. The results show that ROI ranged from 0.04336199 to 0.07785008 for the period. The results also show that ROI averaged 0.066582256 and had a standard deviation of 0.01654.
Table 4.2: ROI

<table>
<thead>
<tr>
<th>Pension Scheme</th>
<th>Before regulatory Changes</th>
<th>After Regulatory Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>LAPTRUST</td>
<td>.0738</td>
<td>.0145</td>
</tr>
<tr>
<td>NBL</td>
<td>.0561</td>
<td>.0058</td>
</tr>
<tr>
<td>CBL</td>
<td>.0743</td>
<td>.0059</td>
</tr>
<tr>
<td>IFAW</td>
<td>.0727</td>
<td>.0126</td>
</tr>
<tr>
<td>DIRECTLINE</td>
<td>.0779</td>
<td>.0026</td>
</tr>
<tr>
<td>GITHUNGURI</td>
<td>.0600</td>
<td>.0050</td>
</tr>
<tr>
<td>MAF</td>
<td>.0746</td>
<td>.0059</td>
</tr>
<tr>
<td>TARDA</td>
<td>.0727</td>
<td>.0146</td>
</tr>
<tr>
<td>THARAKA</td>
<td>.0686</td>
<td>.0009</td>
</tr>
<tr>
<td>COKE</td>
<td>.03536</td>
<td>.0978</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td><strong>.0666</strong></td>
<td><strong>.0165</strong></td>
</tr>
</tbody>
</table>

Source: Audited Financial Statements 2005-2012

The results for the Return on investments after the regulatory changes show that ROI ranged from 0.0511 to 0.1022 for the period. The results also show that ROI averaged 0.08564 and had a standard deviation of 0.0244
4.2.3 Current Ratio

Table 4.3 below shows the results for the current ratio before and after introduction of the regulatory changes. The results show that the current ratio ranged from 6.6308 to 17.0813 for the period. The results also show that the current ratio averaged 12.1770 and had a standard deviation of 5.8028.

Figure 4.2: ROI
Table 4.3: Current Ratio

<table>
<thead>
<tr>
<th>Pension Scheme</th>
<th>Before regulatory Changes</th>
<th>After Regulatory Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>LAPTRUST</td>
<td>25.3694</td>
<td>13.1208</td>
</tr>
<tr>
<td>NBL</td>
<td>6.5207</td>
<td>4.3288</td>
</tr>
<tr>
<td>CBL</td>
<td>16.5255</td>
<td>7.9956</td>
</tr>
<tr>
<td>IFAW</td>
<td>19.3215</td>
<td>6.0355</td>
</tr>
<tr>
<td>DIRECTLINE</td>
<td>16.3255</td>
<td>6.0579</td>
</tr>
<tr>
<td>GITHUNGURI</td>
<td>7.2542</td>
<td>3.7327</td>
</tr>
<tr>
<td>MAF</td>
<td>9.0154</td>
<td>5.5153</td>
</tr>
<tr>
<td>TARDA</td>
<td>10.1533</td>
<td>5.4938</td>
</tr>
<tr>
<td>Tharaka</td>
<td>9.56323</td>
<td>5.4960</td>
</tr>
<tr>
<td>COKE</td>
<td>1.7216</td>
<td>.2515</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>12.1770</strong></td>
<td><strong>5.8028</strong></td>
</tr>
</tbody>
</table>

Source: Audited Financial Statements 2005-2012

After introduction of the regulatory changes, the results show that the current ratio ranged from 1.5154 to 12.0760 for the period. The results also show that the current ratio averaged 6.4795 and had a standard deviation of 5.3428.
Figure 4.3: Current Ratio

4.2.4 Leverage

Table 4.4 below shows the results of leverage before and after introduction of the regulatory changes. The results show that the leverage ranged from 0.04515 to 0.0891 for the period. The results also show that the leverage averaged 0.0717 and had a standard deviation of 0.02023.
Table 4.4: Leverage

<table>
<thead>
<tr>
<th>Pension Scheme</th>
<th>Before regulatory Changes</th>
<th>After Regulatory Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>LAPTRUST</td>
<td>0.0191</td>
<td>0.0037</td>
</tr>
<tr>
<td>NBL</td>
<td>0.0179</td>
<td>0.0036</td>
</tr>
<tr>
<td>CBL</td>
<td>0.0209</td>
<td>0.0045</td>
</tr>
<tr>
<td>IFAW</td>
<td>0.0193</td>
<td>0.0042</td>
</tr>
<tr>
<td>DIRECTLINE</td>
<td>0.0207</td>
<td>0.0029</td>
</tr>
<tr>
<td>GITHUNGURI</td>
<td>0.0178</td>
<td>0.0046</td>
</tr>
<tr>
<td>MAF</td>
<td>0.0195</td>
<td>0.0052</td>
</tr>
<tr>
<td>TARDA</td>
<td>0.0191</td>
<td>0.0051</td>
</tr>
<tr>
<td>THARAKA</td>
<td>0.0200</td>
<td>0.0041</td>
</tr>
<tr>
<td>COKE</td>
<td>.5422</td>
<td>.1645</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>0.0717</strong></td>
<td><strong>0.0202</strong></td>
</tr>
</tbody>
</table>

Source: Audited Financial Statements 2005-2012

After introduction of the regulatory changes, the results show that the leverage ranged from 0.07557 to 0.754273 for the period. The results also show that the leverage averaged 0.423183 and had a standard deviation of 0.291131.
Table 4.5 below presents the results of the paired sample t-test for the various ratios. The expense ratio test was significant -0.757 and since the p value is less than 0.05, there is a significant difference in administration expenses before and after the regulatory changes. The Return on Investment ratio test was significant at -2.462 and the p value shows that there is a significant difference between the ROI before the changes and that of the years after the changes. The current ratio test was significant at 3.007 and the p value shows that there is a significant difference between the ratio before the changes and after the changes. The leverage ratio test was significant at 1.320 and the p value indicates that there is a significant difference between the ratio before and after the regulatory changes.

**Figure 4.4: Leverage**

**4.3 Paired Sample t-Test**

The expense ratio test was significant -0.757 and since the p value is less than 0.05, there is a significant difference in administration expenses before and after the regulatory changes. The Return on Investment ratio test was significant at -2.462 and the p value shows that there is a significant difference between the ROI before the changes and that of the years after the changes. The current ratio test was significant at 3.007 and the p value shows that there is a significant difference between the ratio before the changes and after the changes. The leverage ratio test was significant at 1.320 and the p value indicates that there is a significant difference between the ratio before and after the regulatory changes.
<table>
<thead>
<tr>
<th>Pair</th>
<th>Paired Differences</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>Expbfr - ExpAft</td>
<td>-.04, .15, .05, -.145, .076, -.76, .47</td>
<td>-.04</td>
<td>.15</td>
</tr>
<tr>
<td>Pair 2</td>
<td>ROIbfr - ROIaft</td>
<td>-.02, .02, .01, -.037, -.02, -2.46, .04</td>
<td>-.02</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>CurRatbfr - CurRataft</td>
<td>5.70, 5.99, 1.89, 1.41, 9.98, 3.01, .02</td>
<td>5.70</td>
<td>5.99</td>
</tr>
<tr>
<td>Pair 4</td>
<td>Levbfr - Levaft</td>
<td>.029, .07, .022, -.021, .08, 1.32, .22</td>
<td>.029</td>
<td>.07</td>
</tr>
</tbody>
</table>

Source: Statistical Package for Social Sciences with input from Audited Financial Statements 2005-2012
4.4 Discussion of Findings

The paired t-test results for the sample correlations show that the expense ratio test was significant -0.757 and since the p value is more than 0.05, there is a significant difference in expenses before and after the regulatory changes. This means that the ratio is now smaller as a result of reduced administration expenses. The Return on Investment ratio test was significant at -2.462 and the p value shows that there is a significant difference between the ROI before the changes and that of the years after the changes. The current ratio test was significant at 3.007 and the p value shows that there is a significant difference between the ratio before the changes and after the changes. This means that the schemes have more working capital as a result of the requirement to pay benefits only 30 days after separation of the member from the scheme, whether through death, transfer, resignation or retirement. This is due to the fact that the scheme will have to hold more liquid assets that can easily be converted to cash. The leverage ratio test was significant at 1.320 and the p value indicates that there is a significant difference between the ratio before and after the regulatory changes. This is as a result of the increased working capital.

The results of the tests for significance of the differences in performance of the schemes after the introduction of the regulatory changes show that there is a significant difference in the financial performance of the schemes. The results therefore indicate that the regulatory changes have had positive effects on the performance of pension schemes in general, consistent with the findings of Kusewa (2007).
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusions made from the study, limitations of the study, recommendations for policy and practice, and areas for further research.

5.2 Summary

The paired t-test results for the sample correlations show that the expense ratio test was significant -0.757 and since the p value is more than 0.05, there is a significant difference in administration expenses before and after the regulatory changes. This means that the ratio is now smaller as a result of controlled administration expenses. The Return on Investment ratio test was significant at -2.462 and the p value shows that there is a significant difference between the ROI before the changes and that of the years after the changes. The current ratio test was significant at 3.007 and the p value shows that there is a significant difference between the ratio before the changes and after the changes. This means that the schemes have more working capital as a result of the requirement to pay benefits only 30 days after separation of the member from the scheme. The leverage ratio test was significant at 1.320 and the p value indicates that there is a significant difference between the ratio before and after the regulatory changes. This is as a result of the increased working capital. These improvements are attributed to the regulatory changes that have been introduced over time.
The results for the tests for significance of the differences in performance of the firms after the introduction of the regulatory changes show that there is a significant difference in the performance of the schemes. The results therefore indicate that the regulatory changes have had positive effects on the performance of pension schemes in general as is consistent with the findings of Kusewa (2007).

5.3 Conclusion

The study concludes that since the enactment of the Retirement Benefits Authority Act in 1997 and the pension reforms in 2000, there has been significant growth in the pension industry due to better management and accountability.

The relationship between regulatory changes and the performance of pension schemes in Kenya is unidirectional and runs from regulatory changes to performance and not vice versa.

The study further concludes that regulatory changes have a significant influence on the performance of pension schemes in Kenya as the results have passed significance tests. Therefore, the control of scheme expenses, provision to access full employee and half of employer portion before retirement and reduction of payment period from sixty to thirty days have had a major effect on the financial performance of pension schemes in Kenya.

Finally, the study concludes that the performance of pension schemes is also influenced by other external macro economic factors such as the economic conditions in the country.
5.4 Limitations of the Study

One major limitation of the study was the availability of yearly data per pension scheme as this was the initial plan for the study to use yearly data to perform the analysis. Since this was not possible, the researcher reverted to the use data from 10 schemes as this is what was readily available. The use of 10 schemes meant that the number of observations was less than had been initially planned.

5.5 Recommendations for Policy and Practice

The study recommends that the policy makers should evaluate the regulatory changes that they propose so that the changes can be able to stimulate growth in the pension industry rather than stifle it. The policy makers also need to expand the scope of the regulatory changes in order to ensure that the pension schemes are governed in a responsible way to reduce vices such as corruption and thereby improve performance. The study also recommends that the government through the Retirement Benefits Authority should put up strict measures to ensure that the pension schemes are observing the regulations enacted as a way of ensuring improved performance.

5.6 Areas for Further Research

Studies need to explore the relationship further by using individual pension data for the whole industry to examine the effect of regulatory changes on the performance of pension schemes in Kenya. This was a major limitation of the present study as the time did not allow the collection of individual pension data and therefore use of such may enhance the reliability of results.
Further, studies should carry out more specific data analysis techniques in order to isolate the effects of other economic factors on the performance of pension schemes in Kenya. This will help differentiate between the influence of regulatory changes and that of the other economic factors.

There is also need to use a combination of both primary and secondary data in order to gather qualitatively the effects of regulatory changes on the performance of pension schemes in Kenya as such methodologies have not been explored in this area.
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APPENDICES

APPENDIX 1: Pension Schemes Studied

CBL Consolidated Bank of Kenya Limited Staff Retirement Benefits Scheme
COKE Coca-Cola East Africa Limited Staff Provident Fund 2004
DIRECTLINE Directline Assurance Company Staff Provident Fund
GITHUNGURI Githunguri Dairy Farmers Co-operative Society Limited Staff Provident Fund
IFAW International Fund for Animal Welfare Staff Retirement Benefits Scheme
LAPTRUST Local Authorities Pension Trust Retirement Benefits Scheme
MAF Mission Aviation Fellowship Staff Retirement Benefits Scheme
NBL Nairobi Bottlers Limited Staff Provident Fund
TARDA Tana and Athi Rivers Development Authority Staff Retirement Benefits Scheme
THARAKA Tharaka Nithi Teachers Sacco Limited Staff Provident Fund