

THE DETERMINANTS OF PERFORMANCE OF PENSION FUNDS IN KENYA

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than The University of Nairobi for academic credit. I further declare that I followed all the applicable ethical guidelines in the conduct of the research project.

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ABSTRACT

Pension funds act as an important stimulus to capital markets in most countries where they exist through financial intermediation. Pension funds complement, and hence stimulate development of capital markets, while acting as substitutes for banks as they generate returns themselves. The returns they realize depend on different factors that vary from country to country and from time to time. The purpose of this study was to establish the determinants of performance of pension funds in Kenya.

The study was done on Kenyan pension funds at aggregate level using annual data on fund value, assets, age, contributions and returns. The data was from between 2000 through 2012. Time series regression analysis was used to determine the relationship between returns as the dependent variable and fund value, assets, age and the contributions of pensioners as the independent variables.

The study found a strong positive relationship between age of the investors measured by national life expectancy of Kenya indicating that a longer life expectation positively affected returns. However, weak positive relationships between returns and fund value, assets and contributions of pensioners was weak which indicated that fund values, assets, and contributions were not utilized in the generation of income for the pension funds in Kenya.

The study recommends the pension funds use the increasing value of their funds to generate returns for the pensioners. Secondly, there is need to utilize assets to generate income for the pension funds. Further, there is need to put the contributions of pensioners to more productive investments other than just keeping the funds safely for the pensioners.

ABBREVIATIONS AND ACRONYMS

CEE: Central and Eastern Europe

DB: Defined Benefit

Gok: Government of Kenya

NSSF: National Social Security Fund

OECD: Organization of Economic Cooperation and Development

TOC: Theory of Constraints

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In the recent past, many countries around the globe have experienced rapid establishment and growth of pension funds. The growth of these institutions is one development that countries have given considerable attention because of the sensitivity of the transactions involved in pension funds. Pension funds act as an important stimulus to capital markets in most countries where they exist through financial intermediation. Pension funds tend to complement, and hence stimulate development of capital markets, while acting as substitutes for banks. Growth of pension funds is also the consequence of a number of non-financial and demand-side features (Davis, 2000).

The need for better managed pension funds in many countries has been necessitated by growing populations around the world. Most countries both developed and developing are experiencing increasing longevity in life expectancy and reduced fertility rates that seem to threaten the sustainability of traditional pay-as-you-go pension systems. The pension contributions from the working population will not be sufficient to support the elderly. In response, countries are increasingly shifting their pension systems toward partial or full funding. In addition to the main purpose of coping with demographic pressures and unsustainable fiscal positions, other motivations for countries to reform their pension systems often include the hope that funded pensions will contribute to economic development by promoting national savings and capital market development (Meng & Pfau, 2010).

Pension funds perform diverse activities that are beneficial to both individuals and the economy at large. For instance the funds induce capital and financial market development through their substituting and complementary roles with other financial institutions, specifically commercial and investment banks. As competing intermediaries for household savings and corporate financing (Impavido, Musalem, and Tressel, 2002), pension funds foster competition and may improve the efficiency of the loan and primary securities markets. This results in a lower spread between lending rates and deposit rates, and lower costs to access capital markets. On the other

hand, Davis (1995) argues that pension funds may complement banks by purchasing long-term debt securities or investing in long-term bank deposits. Other potential impacts from the growth of pension funds include an inducement toward financial innovation, improvement in financial regulations and corporate governance, modernization in the infrastructure of securities markets, and an overall improvement in financial market efficiency and transparency (Davis, 1995). Such impacts should ultimately spur higher long-term economic growth.

The performance of pension funds is therefore very important since they play a very significant role in the economy of any country. There is need for pension funds to engage in proper management of the resources entrusted to them. According to Pablo et al, (2009) pension funds need to measure their financial performance against long-term optimal benchmarks. Some of the parameters that may be important in measuring the financial performance include: The presence of other sources of retirement income, including the income from public retirement schemes; the rate of contributions; the target replacement rate and its downside tolerance as well as a matrix of correlations between labor income and equity returns.

1.1.1 The Concept of Performance

Organizational performance is defined as the measure of change of the financial state of an organization, or the financial outcomes that results from management decisions and the execution of those decisions by members of the organization. The measures used to represent performance are selected based upon the circumstances of the organization being observed. The measures selected represent the outcomes achieved, either good or bad (Carton, 2004).

According to Kirkendall (2009), for an organization to be able to measure its performance there is need to determine or identify the various performance measures that should be used. She further recommends a number of appropriate performance measures that can assist in measuring the performance of any organization. These include: efficiency which is measured as a ratio of the expected input to the actual input; effectiveness which is measured as a ratio of the expected output to the actual output. Productivity: which is measured using the inputs and outputs used; quality which can be measured at any point in the input/output chart and can include actual versus expected accuracy and timeliness; innovation which includes measuring the

organization's success in creating change; the quality of work life which can be measured using employee attitudes and profitability of the organization.

1.1.2 Determinants of Pension funds

According to a definition perpetuated by Davis (1995a), a pension fund is a form of institutional investor, which collects pools and invests funds contributed by sponsors and beneficiaries to provide for the future pension entitlements of the said beneficiaries. The main purpose of pension funds is to provide means for individuals to accumulate savings during their productive or working life in preparation for financing of the consumption needs when they retire from active employment. Pension funds make payments to beneficiaries either by means of a lump sum or by provision of an annuity, while also supplying funds to end-users such as corporations, other households through secured loans or governments for investment or consumption.

The management and regulation governing pension funds restrict early withdrawal of funds. This restriction or forbidding beneficiaries from accessing the funds early leaves pension funds with long term liabilities, allowing holding of high risk and high return instruments. The funds held by pension funds are usually put into various investments as a way of ensuring growth of the fund and the ability to provide for the future needs of the beneficiaries. Some of the most common type of investments made by pension funds include: corporate equities, government bonds, real estate, corporate debt in the form of loans or bonds, secured loans, foreign holdings of the instruments; money market instruments and deposits as forms of liquidity (Davis, 2000).

The management of pension funds has transformed in the recent years from defined benefit pension systems where the employer alone used to contribute to defined contributory pension schemes where both the employer and the employee must contribute a given percentage towards the fund. The main sponsor of a pension fund is the employer, such as companies, public corporations, industry or trade groups; accordingly, employers as well as employees typically contribute. Funds may be internally or externally managed. Returns to members of pension plans backed by such funds may be purely dependent on the market or may be overlaid by a guarantee of the rate of return by the sponsor. The latter have insurance features in respect of

replacement ratios subject to the risk of bankruptcy of the sponsor, as well as potential for risk transfers between older and younger beneficiaries, which are absent in defined contribution funds (Bodie, (1990)). For both types of fund, the liability is in real (inflation adjusted) terms. This is because the objective of asset management is to attain a high replacement ratio at retirement which is itself determined by the growth rate of average earning. Defined contribution plans have tended to grow faster than defined benefit in recent years, as employers have sought to minimise the risk of their obligations, while employees seek funds that are readily transferable between employers.

Pension funds in Kenya can be classified into four main categories. The first category is the pension fund that is sponsored by the state and operates in the name of National Social Security Fund (NSSF). This pension is mandatory to all employees both in the public and private sector. The second category of pension funds includes the ones run by public service and are specifically meant to serve civil servants. The third category of pension funds is called occupational schemes and they draw their membership from private sector companies that operate pension schemes. The last category comprises of individual pension schemes that run as Trusts and membership is open to all (GOK, 2000).

1.1.3 Relationship between Determinants and Performance of Pension Funds

There are several factors that affect the performance of pension funds. According to Lungu (2009) the age of a contributor to a pension fund is very significant in determining its performance. If a pension fund has majority young contributors who have not attained retirement age, it implies that they will have more financial resources that can be channelled into investment activities thus earning more income. On the other hand if most of the contributors are old and almost attaining retirement, the fund has to spend more funds to service retirement packages for the contributors and this implies there will be less funds available for investments.

The density of contributions that pension funds receive from the contributors is also a very important determinant of their performance. If a fund has many contributors who are capable of channelling huge funds to the scheme, then there will be enough funds to invest and this will assist the fund to earn better revenues. The reverse is also likely

to happen if the amount of contributions received from the contributors are not large enough to enable the fund to enter into any meaningful asset investment (Bodie et al, 2009).

1.1.4 Pension Funds in Kenya

Earlier Kenyan Retirement Benefit Scheme first came into being after independence, this being the first post independent Retirement Benefit Scheme fund body, dubbed the National Social Security Fund (NSSF), which was established in 1965 (RBA 2000).

In the earlier Kenyan Retirement Benefit Scheme systems before reforms were done to the sector, the Retirement Benefit Scheme 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 imagine a situation where the wife would support the husband (NSSF Act); Pensions Act (Cap 189).RBA has been the regulatory arm of government that is tasked to regulate the Kenyan Retirement Benefit Scheme fund system since 2000, which oversees the 1997 RBA Act that brought about regulation, protection and structure to the Retirement Benefit Scheme fund industry. The RBA continues working to develop the industry and advise the government on Retirement Benefit Scheme policy reforms.

The Kenyan Retirement Benefit Scheme fund system has four components: NSSF; Civil Servants Pension Scheme (CSPS); Occupational Retirement Schemes (ORS); Individual Retirement Schemes.

NSSF is a public provident fund (pays benefits as a lump sum) that covers an estimate of 800 000 members in both the formal and informal sectors and contributions to NSSF are mandatory for employees in firms with 5 or more employees, whereby members contribute 5% of their monthly earnings subject to a maximum of Ksh. 200 that is matched by an equal contribution by the employer ; however RBA allows the employees to contribute more on voluntary basis to a maximum of Ksh. 1,000 per month and that the old-age Retirement Benefit Scheme benefits are available to those aged 55 who have retired from active employment (Stewart and Yermo 2009).

Civil servants pension schemes for the civil servants, judiciary employees, military personnel, armed forces, teachers and parliamentarians and CSPS provides benefits including old age pension, injury and compensation, survival benefits, dependency pension for 5 years after death of a pensioner, disability pension (military only) and gratuities in the form of lump sums. The CSPS had 125 000 members by December 2006 (Kakwani et al. 2006).

In a bid to accumulate retirement savings for their employees, ORS were established and in Kenya ORS are operated on Defined Benefit or on Defined Contribution Retirement Benefit Scheme structures though for Kenyan case, the Defined Contribution is the predominant design; even though it is not mandatory for employers to set up the ORS, once established, the fund falls under the mandate of the Retirement Benefits Authority and thus must comply with the laid down regulations. The ORS are estimated to cover an estimated 3% of the working population in Kenya (RBA 2008).

The Individual Retirement Schemes(IRS) are run by financial institutions, for the Kenyan case mainly by insurance companies which provide an avenue for saving where employers do not have their own schemes, and for workers who wish to make additional voluntary contributions; as at close of 2009, RBA had registered 21 IRS that covered an estimated 2% of the working population. IRS filled the gaps where the number of employees is so dismal to form an ORS that would render it not being financially viable owing to the small membership (RBA, 2009).

1.2 Research Problem

A well-defined system of organizational performance measures can be a powerful means for prioritizing organizational goals and achieving them (Kirkendall, 2009). Pension funds have registered a significant growth in most countries across the globe and they are expected to continue with further growth. Good performance rankings for any organization not only stimulate admiration but they also encourage imitation

and competition that tend to erode a favorable position. Organizations seek to emulate the performance successes of others by emulating their organizational forms and practices (Sutton, 1997). But the performance of pension funds largely depends on a number of factors such as the age of beneficiaries, income from contributions and the level of financial regulation alongside other factors.

There are studies that have addressed various aspects of pension funds. For instance Meng & Pfau (2010) carried out a study on the role of pension funds in capital market development at the stock and bond market level. Samples were taken from a number of countries. The study established that pension fund financial assets have positive impacts on stock market depth and liquidity as well as private bond market depth. However, the impacts are only significant for countries with high financial development. Pension funds do not impact capital market development in the countries with a low level of financial development. Another study was also conducted by Crose, Kaminker & Stewart (2011) on the role of pension funds in financing green growth initiatives. The study established that pension funds' asset allocation to green investments remains low. The study confirmed that the main reason behind the low investment is partly due to a lack of environmental policy support, but other barriers to investment include a lack of appropriate investment vehicles and market liquidity, scale issues, regulatory disincentives and lack of knowledge, track record and expertise among pension funds about these investments and their associated risks.

Njuguna (2011) carried out a study on the determinants of pension fund corporate governance in Kenya. The study established 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. Ngetich (2012) carried out a study on determinants of the growth of individual pension schemes in Kenya. The study established that that fund governance exert a significant relationship on the growth of the pension schemes. This means that pension fund governance lead to improved growth of the individual pension schemes. Shikhule et al. (2012) also conducted a study on determinants of pension schemes governance effectiveness in Kenya. It was revealed that knowledge of the trustee's

covenants by the members, information flow to members and participation of members in the governance of pension schemes are the main factors that influence effectiveness of governance of pension schemes

Despite the studies carried out on performance of organizations and pension funds, there are no studies that have attempted to establish the factors that affect the performance of pension funds. Pension funds are a unique type of organizations because they hold long term liabilities which belong to beneficiaries. This study sought to establish the determinants of performance of pension funds in Kenya in order to bridge this gap.

1.3 Research objective

To establish the determinants of performance of pension funds in Kenya.

1.4 Value of the Study

The findings of this study will be a significant contribution to the existing literature on performance of pension funds. Since this is an area that has great potential of further growth and will attract further academic research, the findings will assist in providing reference materials for future researchers.

Policy makers who work for pension funds in Kenya will also get a clear understanding on the factors that affect the performance of pension funds. This will be a form of benchmark for best practice that will enable them to come up with policies that can enhance the performance of their funds.

The findings can also assist the government of Kenya to know the factors that affect the performance of pension funds. This will enable the government to put in place any appropriate regulations to enhance the sustainable performance of pension funds.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a discussion on the relevant literature that has been reviewed. Among the issues featured in this chapter are the factors that affect the performance of pension funds; a review of the relevant theories that explain pension funds and organizational performance; an empirical review that provides evidence from actual studies that have been carried out as well as a summary of the literature.

2.2 Theoretical Review

2.2.1 The Neo Classical Theory

There is a lot of literature on alternative methods of defined benefit pension provision. Much of this work takes the view primarily of scheme members, or their trustees. However, recent developments indicate that there has been an increasing emphasis on the viewpoint of the investors in a company. Existing neoclassical economic theory in the area of defined benefit pension schemes starts with the work of Black (1980) and Tepper (1981), but draws on the pioneering work of Modigliani and Miller (1958). There is also more recent literature by Exley, Mehta, and Smith (1997).

According to Exley, Mehta, and Smith (2003), there seems to be no dispute as to the basic theory behind pension provision. Important results include: The cost of providing a defined benefit pension scheme is independent of the way it is funded, or whether it is funded at all. In particular, shareholders do not gain from an equity investment policy over bond investment. Second-order effects include the credit risk of the scheme, and also the possibility of leakage of surplus to members in the form of enhanced benefits. These are affected by the asset mix of the scheme. However, these effects are all zero sum, in that a gain to members is a loss to shareholders, and vice versa. So, to the extent that members and shareholders recognize these issues, the cost will already be factored into the members' equilibrium compensation package.

There is, again, no overall gain to shareholders or members from picking one investment mix over another. Other second-order effects include various frictional costs, including transaction costs, capital raising and distribution costs, fund management fees, agency costs and tax. For various reasons, most of these suggest

there is a very substantial joint gain to members and shareholders from investing a pension scheme in government or corporate debt securities. The neoclassical theory is very elegant. The main conclusion for investment is that members and shareholders usually have a joint advantage in holding debt securities. However, this conclusion is at obvious variance with current practice, at least in the United Kingdom, where the majority of pension schemes hold a very significant part of their assets in equities (Exley, Mehta, and Smith, 2003).

2.2.2 The Stakeholder Theory

Stakeholders are groups and individuals who benefit from or are harmed by, and whose rights are violated or respected by corporate actions. They include shareholders, creditors, employees, customers, suppliers, and the community at large. The main proposition of the stakeholder theory is that corporate organizations have the responsibility to ensure that their actions meet the expectations of all the stakeholders. Management should not only consider its shareholders in the decision making process, but also anyone who is affected by business decisions. In contrast to the classical view, the stakeholder view holds that “the goal of any company is or should be the flourishing of the company and all its principal stakeholders (Freeman et al., 2004).

The critics of the stakeholder theory argue that the shortcomings of the theory lie on its inclusion of non human stakeholders such as the natural environment and absentee ones such as future generations or potential victims (Capron, 2003). The difficulty of considering the natural environment as a stakeholder is real because the majority of the definitions of stakeholders usually treat them as groups or individuals, thereby excluding the natural environment as a matter of definition because it is not a human group or community as are, for example, employees or consumers (Buchholz, 2004). Phillips and Reichart (2000) argue that only humans can be considered as organizational stakeholders and criticize attempts to give the natural environment stakeholder status.

2.2.3 Theory of Constraints

The theory of constraints (TOC) is a systems-management philosophy developed by Eliyahu M. Goldratt in the early 1980s. The fundamental thesis of TOC is that constraints establish the limits of performance for any system. Most organizations contain only a few core constraints. TOC advocates suggest that managers should focus on effectively managing the capacity and capability of these constraints if they are to improve the performance of their organization. Once considered simply a production-scheduling technique, TOC has broad applications in diverse organizational settings (IMA, 1999).

TOC challenges managers to rethink some of their fundamental assumptions about how to achieve the goals of their organizations, about what they consider productive actions, and about the real purpose of cost management. Emphasizing the need to maximize the throughput revenues earned through sales TOC focuses on understanding and managing the constraints that stand between an organization and the attainment of its goals. Once the constraints are identified, TOC subordinates all the non-constraining resources of the organization to the needs of its core constraints. The result is optimization of the total system of resources (IMA, 1999).

2.3 Empirical Review

Lungu (2009) carried out a study on the viability of occupational pension schemes in Zambia. The study focused on 7 multi-employer trusts in Zambia and investigated the factors that influence their viability. The findings from the study revealed that the 7 multi-employer trusts in Zambia are in deficit hence not viable. The study also established that there are a number of factors that determine their viability: inadequate regulatory policy; unstable macroeconomic environment and high levels of employee mobility. It was also established that there exists a significant relationship between the viability of the pension funds and the three variables mentioned above.

Exley, Mehta, and Smith (2003) conducted a study on the company manager's view of pension plans. The main argument of the study was that classical financial theory offers a normative prescription for pension fund asset allocation that rejects the widely adopted portfolio selection theory favored by practitioners in favor of close asset and liability matching. The study concluded that corporate managers could cite

to outsiders a number of secondary reasons why they continue to support equity investment by pension funds, contrary to the normative, neoclassical theory. However, one main justification appears to be an insider effect whereby management prefers to maintain the significant ability to manipulate earnings associated with equity invested pension funds.

Antolin (2008) also did a comparative study on the performance of pension plans. The study was sponsored by OECD in collaboration with the World Bank and some private sector institutions and began at the end of 2006. The main aim was to compare investment performance of privately managed pension funds across several OECD, Latin American and Central and Eastern European (CEE) countries. The study first provided an analysis of aggregate investment performance by country on a risk adjusted basis using relatively standard investment performance measures. The second stage of the study involved evaluating potential relationships between the characteristics of each pension system, individual regulatory environments and the investment performance. The study established that the Sharpe ratio and attribution analysis show that, for those countries with enough information and data to adjust returns accordingly, privately managed pension funds have obtained a risk premium against short-term investment alternatives. It was also clear from the findings that pension funds have generally underperformed with respect to the hypothetical portfolio with the highest (mean) return for a given level of risk. The results also confirmed that in several countries investment restrictions have had a negative impact on performance.

A study was also carried out by Tonks (2005) on pension fund management and investment performance. The study established that the value of the pension fund will increase over time due to contributions and the investment returns on the fund. These investment returns depend on the asset allocation and portfolio decisions of fund managers. Small changes in the investment returns, increase to large changes in the value of the pension fund at retirement. The evidence on fund manager performance is that on average they do not add very much value over and above a passive strategy of investing in the market index. However this average disguises the fact that some fund managers perform well, and others perform poorly. Identifying and understanding the persistence of the poor performance of some fund managers is an important issue in

the pensions area, and one in which further research would be worthwhile.

Gitundu (n.d) did an assessment of asset selection and performance evaluation of pension funds in Kenya. The study was motivated by a World Bank (1997) study on Old Age Security in China that revealed an impending old age crisis due to the breakdown of family based systems of old age security. It was established that asset allocations differ between various pension funds, an indicator that the criteria for developing the optimum investment mix differ between investment managers of various pension funds. It was also clear from the findings that that, although performance of pension funds assets is comparable to various market indexes, there is no defined standard performance measure. Some fund managers construct in-house indexes for some assets, others evaluate performance against available economic performance indicators, while others were silent on the performance of the pension funds portfolio.

Another study was also conducted by Njuguna (2010) on strategies to improve pension fund efficiency in Kenya. The findings from the study indicate that fund size is as a significant determinant of the financial efficiency of pension funds. Empirical results also established that those smaller funds are perceived to be more financially efficient than bigger ones. It was however clear that the size of the pension fund did not have any significant influence on the operational efficiency of pension funds. It was also evident that that fund regulations influence how funds are governed and led. Adherence to the identified fund regulations were shown to improve fund governance and leadership.

Hatchett, Bowie and Forester (2010) indicate that pension funds need to understand the premise of risk management since it plays a very significant role in providing increased organizational effectiveness of disparate risk management functions through a central coordinating function that has clear ownership and accountability for overall risk management. They further assert that senior management who understand risk management will be better informed when making material decisions and should be better able to assess risk/return trade-offs, as well as having an alternative insight into emerging risks and opportunities.

Ammann and Zingg (2008) carried out an investigation into the relationship of pension fund governance and investment performance of Swiss pension funds. The study was based on a sample of 96 pension funds with total assets of more than CHF 190 billion. The study findings indicate that good governance with respect to target setting and investment strategy seems to be of particular importance. In contrast, organization, investment rules and organization, controlling and steering, and communication are not significantly related to performance. However, this does not mean that governance issues in these areas are negligible.

2. 4 Determinants of Performance of Pension Funds

2.4.1 Age of contributors

The existence of pension funds can be traced back to the colonial days when the colonial governments introduced the social welfare programmes. In recent years there has been a great transformation of the pension funds as well as major growth across the globe. The main reason why pension funds exist is to provide some form of social security to people who retire from active employment. The pension fund is aimed at providing some income that will enable retired people to meet their needs even in retirement. It is therefore clear that pension schemes are part and parcel of a social protection plan that is designed to protect people from financial impairment once they retire from active employment (Lungu, 2009).

2.4.2 Assets

The structure of pension plans has gradually transformed from defined benefit (DB) systems to various types of arrangements in which the provision of pensions is backed by assets, either in individual accounts or in collective schemes. This change has been motivated principally by governments seeking to lessen the fiscal impact of aging populations and to diversify the sources of retirement income. One of the key results is that many pension systems are now in the process of becoming asset backed. This transformation of pension funds implies that retirement incomes are now closely linked to the performance of these assets, resulting in participants being exposed to the uncertainties of investment markets to determine the level of benefits that they will ultimately receive. It is evident from the financial meltdown of 2008 that there are potential consequences of this type of transformation (Hinz, Rudolph, Antolin and Yermo, 2010).

Bodie, Detemple, and Rindisbacher, (2009) argue that there is need to recognize that pension fund assets have important differences compared with other forms of collective investments. This difference stems from the fact that pension funds have the objective of providing income replacement in retirement, whereas the other forms of collective investments are primarily concerned with short-term wealth maximization of individuals. This definite difference in objectives leads to different time frames over which performance should be considered and different attitudes to risk. However, despite these clear distinctions between pension schemes and other collective investments, there is no difference in the performance measures that are applied to evaluate the performance the pension funds and other types of investments.

The spectacular losses experienced by many pension funds since the onset of the financial crisis in late 2008 have been widely noted and debated. The Organization for Economic Cooperation and Development (OECD) indicates that there were approximately \$5.4 trillion or about 20 percent of the value of assets losses in countries that were affected by the 2008 global financial meltdown (Antolin and Stewart, 2009). For instance the returns that were realized from the pension funds in Latin America and Central Europe in 2008 were two digits negative. Hinz et al (2010) however assert that focus on short-term nominal returns on investments hides the fact that returns are only one of several factors that will determine the performance of pension funds to provide retirement income to their members. Others factors include administrative and investment management costs, the density of contributions, and the behavior of participants in choosing a retirement age.

The other factors that drive pension benefits in an asset-backed setting have received much research and policy attention in recent years. For instance, countries have designed a variety of mechanisms to reduce costs, including the imposition of caps on fees, centralization of collections and the use of blind accounts, lotteries that allocate new contributors among funds, and paperless transactions. Policy makers are aware of the alternatives available, and the challenge is to ensure that the alternatives chosen are properly implemented. Collective pension arrangements established by employers and employee associations can also be an effective way to keep costs low, especially when the funds established achieve sufficient scale (Hinz et al, 2010).

2.4.3 Density of Contributions

Density of contributions is also an important factor that has affected the pension benefits in countries with large informal sectors. Individuals with a low density of contributions are likely to face low accumulated assets at retirement age, and therefore are likely to have low retirement incomes. The retirement age is also an important factor that affects the performance of pension funds. Because the accumulation period is shorter in countries that allow individuals to retire earlier, individuals are likely to receive lower retirement income. As a consequence, governments in some countries have been raising the official retirement age or have introduced incentives to delay retirement. The capacity of funded individual account systems to deliver retirement income will be further challenged in this respect as life expectancy continues to increase in virtually all countries (Bodie et al, 2009).

2.5 Summary

The study has reviewed expansive literature on pension funds. It is clear that pension fund assets have important differences compared with other forms of collective investments. However the same measurements are still used to measure the performance of pension funds. It is also clear that most pension funds are still at their infancy and this makes it difficult to create any meaningful trend analysis on their performance. Studies linking performance of pension funds for most developing countries are also scarce since they do not have well structured pension plans due to inadequate regulations.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives the methodology that was used to accomplish the already established research objective. Here the research design, target population, sampling design, sample size, data collection and analysis, are briefly discussed. According to Kothari (2004), research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. It examines the various steps that are generally adopted by a researcher in studying the research problem.

3.2 Research Design

Rajendra (2008) defines research design as the linkage and organization of conditions for collection and analysis of data in a manner that aims at combining relevance to the research purpose with economy in the procedure. He further argues that research design focuses on the structure of an enquiry, which leads to the minimization of the chance of drawing the wrong casual inferences from the data. This study was a census of the pension funds registered by the Retirement Benefits Authority in Kenya.

3.3 Population of the Study

The total population is the entire spectrum of a system or process of interest. It is the universe of people to which the study can be generalized (Johnston and VanderStoep, 2009). According to the Retirement Benefits Authority (RBA) (2013) there are 1216 registered pension funds in Kenya. The target population consisted of all registered pension schemes as per attached appendix I.

3.4 Sample Size and Sampling Procedures

All 29 of 1216 registered schemes on a single administrator (Liaison Financial Services) schemes was used for consistency, to keep administrator influence constant and also because many analysts have noted the difficulty of identifying and obtaining the cooperation of trustees for attitudinal surveys let alone the ambitious scope of this study (Bunt et al. (1998), Horack et al. (2003), and Thomas et al. (2000).

3.5 Data Collection

The study used secondary data. The secondary data was quantitative in nature and was collected from the annual financial statements of the pension funds. These Financial Statements usually in copies reside with the Fund Managers, Scheme Trustees, Scheme Administrators and RBA as filed returns. For the purpose of this study, these financial statements were sourced from the RBA systems and the pension funds for validity. For the data to be representative enough, the study reviewed secondary data for any five years depending on data availability and access.

3.6 Data Analysis

A multiple regression model was used to analyze the data. The regression analysis was done using the regression model below:

$$P_{pf} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where P_{pf} is the performance of pension funds and this was measured using the profitability index of Return on Assets (ROA); X_1 is the age of the contributors measured by life expectancy; X_2 is the net value of the assets of the pension funds and X_3 is the contributions received by the contributors to the pension fund. The terms α and β_i represent the intercept in the regression and the sensitivity of performance on each of the factors X_i .

The t -tests at 95 % confidence level was used to determine the statistical significance of the constant terms, α and the coefficient terms, β_i . The F -tests was used to determine whether the regressions is of statistical importance at 95 % confidence level. The coefficient of determination, R^2 , and the Adjusted R^2 was used to determine how much variation in the dependent variables is explained by variation in the independent variables. The analysis was done using SPSS 17.

CHAPTER FOUR DATA PRESENTATION AND ANALYSIS OF FINDINGS

4.1 Introduction

In this chapter, the focus is on the presentation of data and interpretation of the findings. It presents the analysis of the data ending with the regression analysis results. The data is presented and the analyzed and compared with other similar studies done on the subject matter of this study.

4.2 Analysis of Data and Presentation of Findings

4.2.1 Assets

The values of assets in this study are as reported in the financial records of the pension funds. The values were taken per individual pension funds and summed up to make an observation for the assets in a particular year. The figures are as presented in Table 4.1 below.

Table 4.1: Assets

Year	Assets (Ksh)
2000	122,683,428,380
2001	122,683,428,380
2002	889,929,765
2003	92,887,304,673
2004	109,207,063,160
2005	195,815,921,457
2006	232,857,338,038
2007	261,333,273,712
2008	219,945,781,667
2009	298,433,371,026
2010	410,286,257,106
2011	326,780,344,077
2012	326,780,344,077

(Source: Retirement Benefits Authority)

4.2.2 Fund Value

Fund Value was simply the value of the assets of the pension funds studied. The values used in this research are the sum of the pension funds in a particular year. Table

4.2 provides the total of the values of the pension funds on an annual basis. The values were found from the financial reports of the respective individual funds before aggregation.

Table 4.2: Fund Value

Year	Fund Value (Ksh.)
2000	125,237,136,218
2001	131,916,901,560
2002	140,922,486,076
2003	164,505,439,838
2004	185,213,097,871
2005	210,366,015,570
2006	250,757,202,867
2007	284,583,536,866
2008	341,979,799,862
2009	367,631,204,452
2010	455,938,700,700
2011	348,767,605,956
2012	348,767,605,956

(Source: Retirement Benefits Authority)

4.2.3 Age

The variable of age was proxied by the use of life expectancy of Kenya. This was used due to the difficulty of establishing the ages of the contributors to the pension funds. The life expectancy data are presented in Table 4.3. When life expectancy is short it is expected that contributions will be less and this may affect the performance of the pension schemes.

Table 4.3: Life Expectancy

Year	Age (Years)
2000	52.30
2001	52.02
2002	51.97
2003	52.13
2004	52.48
2005	48.99
2006	53.66
2007	54.39
2008	55.12
2009	55.84
2010	56.60
2011	57.10
2012	57.70

(Source: Kenya National Bureau of Statistics)

4.2.4 Contributions

Contributions variable was captured by the amounts in the financial records of pension schemes indicating how much the funds had received from their contributors in a given year. The values for all the pension funds were summed up to find the figures in Table 4.4.

Table 4.4: Contributions

Year	Contributions (Ksh)
2000	790,047,468
2001	790,047,468
2002	790,047,468
2003	790,047,468
2004	1,111,388,200
2005	1,065,260,499
2006	1,222,597,508
2007	1,326,184,226
2008	2,062,831,586
2009	2,352,301,796
2010	2,387,689,084
2011	2,979,064,218
2012	2,979,064,218

(Source: Retirement Benefits Authority)

4.2.5 Returns

Returns variable was captured using recorded income of the funds in a year. The figures for individual funds in each year were summed up together to provide the figures presented in Table 4.5. The income was used in the regression as the dependent variable.

Table 4.5: Fund Income

Year	Income (Ksh.)
2000	2,882,940,039
2001	2,882,940,039
2002	2,882,940,039
2003	2,882,940,039
2004	982,790,742
2005	2,893,260,444
2006	3,948,852,697
2007	1,604,274,937
2008	113,643,074
2009	953,729,024
2010	5,505,637,134
2011	1,911,216,860
2012	1,911,216,860

(Source: Retirement Benefits Authority)

4.2.6 Descriptive Analysis

This study was based on income as the dependent variable. The independent variables were: fund value, values of assets, life expectancy as a measure of age, and contributions of members to the funds. The data was analyzed on the aggregate of all the pension funds in Kenya managed by Liaison Financial Services. Table 4.1 provides the summary statistics for each of the variables of the study. The mean fund value was Ksh 258,198.98 Million (= 107,636.85). The maximum value of the fund was Ksh 455,938.70 Million in 2010 while the minimum fund value was Ksh 125,237.14 Million in 2000. The mean value of the fund assets was Ksh 209,275.68 Million (= 116,014.07) with the maximum value of Ksh 410,286.26 Million in 2010 and the minimum of Ksh 889.93 Million in 2002.

Table 4.6: Summary Statistics (Ksh Million)

	Fund Value	Assets	Age (Yrs)	Contributions	Return
Mean	258,198.98	209,275.68	53.87	1,588.20	2,412.03
Std. Dev	107,635.85	116,014.07	2.53	845.02	1,404.07
Min	125,237.14	889.93	48.99	790.05	113.64
Max	455,938.70	410,286.26	57.70	2,979.06	5,505.64

(Source: Research Findings)

The mean life expectancy was 53.87 years ($s = 2.53$). The maximum life expectancy was 57.7 in 2012 while the lowest life expectancy was 48.99 in 2005. The mean annual contributions were Ksh 1,588.20 Million ($s = 790.05$) with the maximum being Ksh 2,979.06 Million achieved in 2011 and the minimum Ksh 790.05 Million in 2003. The mean income generated was Ksh 2,412.03 Million ($s = 1,404.07$). The maximum income was Ksh 5,505.64 Million achieved in 2010 while the lowest income for the funds was Ksh 113.64 Million realized in 2008.

4.2.7 Correlation Analysis

Table 4.2 provides a summary of the correlation among the variables. As shown, there was strong positive correlation between: fund value and asset values, $r(13) = 0.93$; fund value and age, $r(13) = 0.82$; fund value and contributions, $r(13) = 0.88$; assets and age, $r(13) = 0.76$; assets and contributions, $r(13) = 0.84$; and between age and contributions, $r(13) = 0.89$. The weakest positive correlation was between fund value and fund income, $r(13) = 0.00$ and between assets and income, $r(13) = 0.13$. Weak negative correlation was realized between age and income, $r(13) = -0.12$, and between income and contributions, $r(13) = -0.18$.

Table 4.7: Correlation Matrix

	Fund Value	Assets	Age	Contributions	Income
Fund Value	1.00				
Assets	0.93	1.00			
Age	0.82	0.76	1.00		
Contributions	0.88	0.84	0.89	1.00	
Income	0.00	0.13	-0.12	-0.18	1.00

(Source: Research Findings)

4.2.8 Regression Analysis

Table 4.3 provides the results of the regression analysis with income as the dependent variable. The constant term was -1.26×10^9 which was not significant, $t_{(13)} = -0.07, p > 0.05$. The coefficient of Fund Value was -0.0024 which was not significant, $t_{(13)} = -0.20, p > 0.05$. The coefficient of Assets was 0.01 which was not significant, $t_{(13)} = 1.34, p > 0.05$. The coefficient of Age was 8.08×10^7 which was not significant, $t_{(13)} = 0.22, p > 0.05$. The coefficient of contributions was -1.73 which was not statistically significant, $t_{(13)} = -1.26, p > 0.05$. The whole regression was not statistically significant and the variation in Fund Value, Assets, Age and Contributions weakly explains the variation in income in the pension funds, $F_{(4,8)} = 0.86, p > 0.05, R^2 = 0.03$.

Table 4.8: Regression Analysis

	Coefficient	Std Error	t-ratio	p-value
Const	-1.26×10^9	1.83×10^{10}	-0.07	0.95
Fund Value	-0.0024	0.01	-0.20	0.85
Assets	0.01	0.01	1.34	0.22
Age	8.08×10^7	3.71×10^8	0.22	0.83
Contributions	-1.73	1.37	-1.26	0.24
F(4, 8)	0.86			
P-value(F)				0.52
R-squared	0.30			
Adjusted R-squared	-0.05			

(Source: Research Findings)

The regression model was found to be

$$ROA = -1.26 \times 10^9 + 0.01 (\text{Assets}) - 0.0024(\text{Fund Value}) + 8.08 \times 10^7 (\text{Age}) - 1.73(\text{Contributions})$$

4.3 Summary and Interpretation of Findings

The findings suggest of the regression analysis indicate a weak relationship between fund value, assets, age, contributions on one side and returns of pension funds on the other side. The coefficient of assets variable was not statistically significant but was positive. This indicates that the analysis did not find a significant relationship between returns of the pension funds and the values of assets owned by the funds. The coefficient of Fund Value variable was not statistically significant. This indicated that fund return was found by the analysis not to be affected by fund value. The coefficient of age was not statistically significant indicating that age of contributors did not affect return. The coefficient of contributions was not statistically significant indicating that contributions did not affect returns.

These results agree with theoretical expectation as put forth by the Stakeholder Theory as discussed by Freeman et al. (2004). Freeman et al. (2004) suggest that the performance of a pension organization is determined by the nature and needs of stakeholders. In Kenyan pension schemes the principle stakeholders are people saving for retirement and may not be keen on profitability leading to such results as found by this research.

The findings of this study seem to disagree with those of (Lungu, 2009) who suggested that the age of the contributor of pension funds affected the fund's performance. This research found no strong relationship between age and returns of the pension funds in Kenya.

The findings are also at difference with those of Bodie, Detemple, and Rindisbacher, (2009) who argued that assets of pension funds have a strong bearing on the financial performance of pension funds though in the long run. This study does not find a strong relationship between asset values and the returns of the pension funds indicating that assets did not affect performance of the pension funds.

This study finds that fund size did not have a significant effect on performance. This is in disagreement with the findings of Njuguna and Arnolds (2010) who found that in 362 registered pension funds drawn from the Kenya fund governance, leadership and regulations do not influence the financial efficiency of these funds, but fund size was

the most important determinant of financial efficiency and performance.

The findings of this study are different from those of Bodie et al (2009) who found that density of contributions is also an important factor affecting performance of pension funds in countries with large informal sectors. The study found that retirement age and life expectancy is an important factor that affects the performance of pension funds.

The findings of this study seem to confirm the findings of Jackowicz and Kowalewski (2011) that attributed performance not on age of contributors, contribution, assets and growth of funds but on both the composition of the board and the motivation of the board members. The study by Jackowicz and Kowalewski (2011) asserted that overall policy focus should be put on the board structure of pension funds, taking into account the different interests of the beneficiaries and fund shareholders.

Antolin, Payet and Yermo (2010) found different results concerning the performance of pension funds in Japan and the USA. The main goal of that study was to assess the relative performance of different investment strategies among pension funds. This is also done for different structures of the payout phase. In particular, it looks at whether the specific glide-path of life-cycle investment strategies and the introduction of dynamic features in the design of default investment strategies affect significantly retirement income outcomes. The study combined a stochastic analysis of the performance of different investment strategies for different payout options with a historical analysis to test the findings of the stochastic simulation with actual market data from Japan and the United States. The stochastic model using simulations of returns of the different asset classes (cash, bonds and equities) generates, depending on the form of the payout phase, stochastic simulations of income at retirement. The study found that returns were a function of the strategic approaches of the pension fund managers.

The study seems to differ with those of Oxera Consulting Ltd (2008) who found that contribution levels matter. An overall reduction in pension contributions would result in lower levels of retirement wealth, and incomes but for reasons that have little to do with the shift to the pensions per se. Lower contributions to a pension scheme was found to imply lower pension benefits.

A further disagreement is realized when compared with the findings of Harper (2008). Harper studied the direct relationship between the composition of the board of trustees of a pension plan and several facets of performance using a sample of US public sponsored pension plans. The study focused on the impact of outside or independent trustees. Though Data from 71 pension plans from fiscal years 2001 – 2005 showed no relationship between board composition and characteristics and investment performance as measured by the excess return of the fund, board composition played an important role in plan funding status and asset allocation decisions and hence performance. The selection and performance of individual managers was negatively related to ex-officio trustees and board terms.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Theoretical postulation indicated that the returns of pension schemes are dependent upon fund value, assets, age and the contributions. The theoretical expectation is that as the fund value increases, so does the returns. This means a positive relationship between fund value and returns. It is also expected that as pension funds acquire more assets to be used in the operations, returns also increase, therefore predicting a positive relationship between asset values and return. The prediction concerning the contributions and ages are similar, that is, when ages of contributors increase, returns increase too. However, empirical studies have found variations of relationships.

This research was designed to find out the unique relationship between returns and fund value, assets, age and the contributions of the members. Data was collected for the five years beginning 2008 and ending 2012. Correlation analysis was done to find out the co-movements among the variables. Regression analysis was done by analyzing aggregate figure of fund value, assets, age and the contributions at the sector level. Other than the regression model, statistics like t-tests, F-test and the coefficient of determination were used to find out the strength of the regression analysis model.

The regression results found that there was weak relationship between fund value, assets, age, contributions on one side and returns of pension funds on the other side. The coefficient of Fund value was not statistically significant indicating that Fund Value did not affect returns; the coefficient of assets was not statistically indicating that value of assets does not affect returns. Further, the age of the contributors was not statistically significant indicating that age does not affect return. The contributions from the beneficiaries did not have an effect on the return of the pension funds. The whole regression model was not statistically significant basing on the F-test which showed that the p-value of the regression was larger than the critical level. The variation in the independent variables poorly explained the variation in the income of the pension funds.

5.2 Conclusions

From the finding of this research, the following conclusions are made. First, the relationship between fund value and returns among pension funds in Kenya are is not strong. This means that the improvement in the value of pension funds is not used as leverage for higher profitability. Improvement in fund values does not translate to higher returns.

The relationship between assets and returns is also weak. This leads to the conclusion that the assets acquired by the pension schemes do not translate into higher returns. If the relationship were strong then it would mean that the assets available in the pension funds are used to generate income for the generation of income for the benefit of the contributors. However, this is not the case.

The coefficient of age was not statistically significant indicating that general age of the contributors was not a contributor to the returns of the pension funds in Kenya. This indicates that variability of the age of the contributors was independent from the variability of the returns of the pension funds as opposed to the theoretical positions which claim a close relationship.

The relationship between return and contributions was weak and statistically insignificant. This indicates that returns of the pension funds are not responsive to the contributions of the pensioners. This leads to the conclusion that the funds contributed by pensioners are not used for income generation activities. If they were, then returns would closely vary with variation in the amounts given by contributors.

The whole regression analysis was statistically insignificant indicating that there are other factors, other than those investigated in this research that seem to determine the behaviour of the returns of the pension funds. There is need to foind out what these factors are and manipulate them in a manner to improve returns to the contributors of the pension schemes.

5.3 Policy Recommendations

Based on the findings of this study, the following recommendations arise. First, the pension funds should use the increasing value of their funds to generate returns for the pensioners. This is because relationship between fund value and returns among pension funds in Kenya are is not strong indicating that this advantage is not utilized. Increase values of funds can be used as assets that can be a generator of further income for the benefit of pensioners

Secondly, there is need to utilize assets to generate income for the pension funds. It seems the assets acquired by the pension schemes are not properly used to generate higher returns. If the assets were well utilized it would mean that the assets available in the pension funds are used to generate income leading to a strong relationship between asset values and returns. Seems like most of the pension funds have the legal binding to keep safe the funds of pensioners without using the funds as a mechanism of generating income.

There is need to put the contributions of pensioners to more productive investments other than just keeping the funds safely for the pensioners. The irresponsiveness of returns to pension contribution could indicate that the funds do not contribute to income generation. Policies should be put in place to allow investment of pension funds to generate higher returns.

There is need to include the needs of the different age brackets in the management of the pension schemes. While the older pensioners are satisfied with stable old age income, the younger want their funds to be used in more income generating activities. The fact that age did not seem to affect the returns of the pension funds indicates that the pension fund managers have equated the needs of all contributors to old age income needs. There is therefore no need of investing funds in more productive investments.

5.4 Limitations of the Study

The data covers a few years, precisely only 13 years. The findings may not be applicable across all times in Kenya. The results given by this study are therefore limited to the 13 years that were studied. The findings may, therefore, not apply across all years since as evidenced by the data itself variations in the relationship may vary from time to time dependent upon the policies concerning how pension funds are utilized in Kenya.

The research has not provided an indication as to why the independent variables, namely, fund value, assets, age, and contributions are not strongly explaining the variation in the returns of the pension funds. The best it has done is to show that the explanation is weak, but the source of the weakness has not been explained. This is because the study has fallen short of determining whether or not there is a causal relationship between returns and the independent variables. A causality study can establish which factor causes or does not cause which factor. Causality goes beyond indicating whether the relationship is positive, null or negative by determining whether a factor causes another.

The study has focused on Kenya alone. Currently Kenya is active in uniting the East African countries into a single and united economic union. The results would be stronger and of higher utility if the study considered all the countries in the East African Community. Such a study would be more useful due to the higher relevance of the results to countries outside Kenya but within the East African Community. This would also improve the generalizability of the results.

The study does not provide a universal argument concerning the relationship between pension returns and the independent variables. Within the increasingly globalized world economy of the world, there is need to provide argument that stand the test of global argument. In universal arguments the findings are usually applicable in different geographical contexts and different time contexts. The findings of this study are applicable, mainly in Kenya and for the covered period. A study can be done to find out how to generate universalizable arguments.

5.5 Suggestions for Further Research

The findings of this study can be improved if the study is expanded to cover a longer period of time. A future research can be carried out on the same topic, but using data across a longer period of time. This is with the assumption that the data for a longer time will provide results that are better than those provided by the data used in this study. The possible higher objectivity that arises based on the sample period may be settled covering a longer period.

Also given that Kenya is a key player in the East African community the study can be expanded to cover other pension funds within the East African community in order to provide result that will be useful in that context. A study can be done to cover all the pension funds in East Africa. Such a study would be used as a referential manuscript when coming up with strategic plans to professionalize the management of pension funds in a manner to improve their performance.

A future researcher can conduct the research with the aim of determining whether there is a causal relationship between the dependent variable and the independent variables. This will help provide an explanation of why the coefficient of determination is and the relationship weak. Further, such a study will provide solution as to which other factors are to be considered to make the relationship stronger.

Pension schemes are a large generator of savings in a country relative upon the number of people in the formal employment. These funds are to be used in income generating activities for the benefit of the pensioners and other stakeholders. A research can be done to establish how pension funds are managed in Kenya that leads to poor connection with returns.

REFERENCES

- Ammann and Zingg (2008) Performance and Governance of Swiss Pension Funds. Swiss Institute of Banking and Finance, Rosenbergstrasse.
- Antolin, P. (2008) Pension Fund Performance. OECD Working Papers on Insurance and Private Pensions No. 20
- Antolin, P., Payet, S. and Yermo, J. (2010). Assessing default investment strategies in defined contribution pension funds, OECD Journal: Financial Market Trends, 2010 (1),1-29.
- Black, F. (1980) The tax consequences of long-run pension policy. *Financial Analysts Journal* 36: 21–8.
- Bodie Z (1990), "Pensions as retirement income insurance", Journal of Economic Literature, 28, 28-49.
- Bodie, Z., Detemple, J. and Rindisbacher, M. (2009). "Life Cycle Finance and the Design of Pension Plans." 2009. Boston University School of Management Research Paper Series No. 2009-5. Available at SSRN: <http://ssrn.com/abstract=1396835>.
- Buchholz, R. A. (2004). The natural environment: Does it count?", Academy of Management Executive, 18 (2):130-133.
- Oxera Consulting Ltd. (2008). Defined-Contribution Pension Schemes: Risks and Advantages for Occupational Retirement Provision, *European Fund and Asset Management Association*.
- Carton, B. (2004) Measuring Organizational Performance: An Exploratory Study. A Dissertation Submitted to the Graduate Faculty of The University of Georgia.
- Chatterton, M. Smyth, E. and Darby, K. (2010) Pension scheme administration costs. Department for Work and Pensions Working Paper No 91
- Cruse, R. Kaminker, C. & Stewart, F. (2011) The Role of Pension Funds in Financing Green Growth Initiatives OECD Working Papers On Finance, Insurance And Private Pensions, No. 10.
- Davis, E. (2000) Pension Funds, Financial Intermediation and the New Financial Landscape. The Pensions Institute, Discussion Paper No. P1-0010.
- Davis, E.P. (1995), "Pension Funds, Retirement-Income Security and Capital Markets, an International Perspective", Oxford University Press.
- Harper, J. T. (2008). Board of trustee composition and investment performance of US public pension plans, *International Centre for Pension Management*.

- Exley, C.J., Mehta, S.J.B and Smith A.D (1997) The financial theory of defined benefit pension schemes, *British Actuarial Journal* British Actuarial Journal 4: 213-383.
- Freeman, R. E., Wicks, A. C. and Parmar, B. (2004) “Stakeholder Theory and ‘The Corporate Objective Revisited’”, *Organization Science*, 15 (3): 364-369.
- Gitundu, E. (n.d) Assessment of Asset Selection and Performance Evaluation: A Case of Pension Funds in Kenya. An MBA research project submitted to Egerton University.
- Government of Kenya, The Retirement Benefits Act, (No. 3 of 1997) The Retirement Benefits (Occupational Retirement Benefits Scheme) Regulations 2000.
- Hatchett, Bowie and Forester (2010) Risk management for pension funds. Stapple Inn Actuarial Society.
- Hinz, R. Rudolph, H. Antolin, P. and Yermo, J. (2010) Evaluating the Financial Performance of Pension Funds. The International Bank for Reconstruction and Development / the World Bank, Washington DC.
- IMA (1999) Theory of Constraints (TOC) Management System Fundamentals. Institute of Management Accountants, USA.
- Impavido, G., Tower, I., (2009), „How the Financial Crisis Affects Pensions and Insurance and Why the Impacts Matter“, IMF Working Paper.
- Jackowicz, K. and Kowalewski, O. (2011). Internal Governance Mechanisms and Pension Fund Performance, *Warsaw School of Economics, World Economy Research Institute*.
- Kirkendall , N. (2009) Organizational Performance Measurement in the Energy Information Administration. Energy Information Administration Newsletter.
- Lungu, F. (2009) An Assessment on the Viability of Occupational Pension Schemes in Zambia. An MBA thesis submitted to Copperbelt University, Zambia.
- Meng, A.and Pfau, W. (2010) The Role of Pension Funds in Capital Market Development. GRIPS Discussion Paper 2017.
- Modigliani, F., and M.H. Miller. 1958. The cost of capital, corporation finance and the theory of investment. *American Economic Review* 48: 261–97.
- Ngetich, C. (2012) Determinants of the growth of individual pension schemes in Kenya. An MBA project submitted to the University of Nairobi.
- Njuguna, A. (2011) Determinants of Pension Governance: A Survey of Pension Plans in Kenya. *International Journal of Business and Management*, 6 (11)
- Njuguna, A. (2010) Strategies to Improve Pension Fund Efficiency in Kenya. A Ph.D Thesis Submitted to Nelson Mandela Metropolitan University.

- Njuguna, A. G. and Arnolds, C. (2010). Improving the financial efficiency of pension funds in Kenya, *Nelson Mandela Metropolitan University*.
- Pablo et al., (2009) Evaluating the Financial Performance of Pension Funds. OECD - IOPS Global Forum Rio de Janeiro, Brazil 14-15 October 2009
- Phillips, R. A. and Reichart, J. (2000) “The Environment as a Stakeholder? A Fairness-Based Approach”, *Journal of Business Ethics*, 23 (2): 185-197.
- Retirement Benefits Authority (2013) Registered Fund Managers. Available at <http://www.rba.go.ke/service-providers/registered-fund-managers>. Accessed on 10/7/2013
- Shikhule et al. (2012) Determinants of Pension Schemes Governance Effectiveness: A Case of Kenya Medical Research Institute (KEMRI). *An International Multidisciplinary Journal, Ethiopia*, 6 (2): 25
- Tepper, I. (1981) Taxation and corporate pension policy. *Journal of Finance* 36: 1–13.
- Tonks, I. (2005) Pension Fund Management and Investment Performance. Clark and Manuel, the Handbook of Pensions. P 456-480.

APPENDICES

Appendix I: Fund Values

(Source: Retirement Benefits Authority)

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2009	367,631,204,452
2010	455,938,700,700
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Appendix II: Assets
(Source: Retirement Benefits Authority)

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2008	219,945,781,667
2009	298,433,371,026
2010	410,286,257,106
2011	326,780,344,077
2012	326,780,344,077

Appendix III: Life Expectancy
(Source: Kenya National Bureau of Statistics)

Year	Age (Years)
2000	52.30
2001	52.02
2002	51.97
2003	52.13
2004	52.48
2005	48.99
2006	53.66
2007	54.39
2008	55.12
2009	55.84
2010	56.60
2011	57.10
2012	57.70

Appendix IV: Contributions
(Source: Retirement Benefits Authority)

Year	Contributions (Ksh)
2000	790,047,468
2001	790,047,468
2002	790,047,468
2003	790,047,468
2004	1,111,388,200
2005	1,065,260,499
2006	1,222,597,508
2007	1,326,184,226
2008	2,062,831,586
2009	2,352,301,796
2010	2,387,689,084
2011	2,979,064,218
2012	2,979,064,218

Appendix V: Fund Income
(Source: Retirement Benefits Authority)

Year	Income (Ksh.)
2000	2,882,940,039
2001	2,882,940,039
2002	2,882,940,039
2003	2,882,940,039
2004	982,790,742
2005	2,893,260,444
2006	3,948,852,697
2007	1,604,274,937
2008	113,643,074
2009	953,729,024
2010	5,505,637,134
2011	1,911,216,860
2012	1,911,216,860

Appendix VI.

List of Pension Schemes

1. Coast Development Authority Staff Retirement Benefit Scheme
2. Deliverance Church Kasarani Staff Retirement Benefit Scheme
3. Development Bank of Kenya Staff Provident Fund
4. ETC East Africa Staff Retirement Benefit Scheme
5. G4S Security Services Kenya Limited Staff Retirement Benefit Scheme "B"
6. Gulf African Bank Staff Retirement Benefit Scheme
7. Kenya Bixa Limited Staff Retirement Benefit Scheme
8. Kenya College of Accountancy Staff Retirement Benefit Scheme
Kenya Industrial Research Development Institute Staff Retirement Benefit
Scheme
9. Scheme
10. Kenya National Library Service Staff Retirement Benefit Scheme
11. Liaison Group (IB) Staff Pension Scheme
12. Marryat and Scotts (Kenya)Limited Staff Pension Scheme
13. Nairobi Baptist Church Staff Provident Fund
14. Nairobi Java HouseStaff Retirement Benefit Scheme
15. National Museums Staff Retirement Benefit Scheme
16. Rural Electrical Authority Staff Retirement Benefit Scheme
17. Schindler Limited Staff Retirement Benefit Scheme
18. Seven Four Eight Air Services Kenya Limited Staff Provident Fund
19. Sian agriflora Limited Staff Pension Scheme
20. Sollatek Electronics Kenya Staff Pension Scheme
21. Southern Cross Safaris Staff Retirement Benefit Scheme
22. Sovereign Group Staff Retirement Benefit Scheme
23. Standard Limited Staff Pension Scheme
24. Trans National Bank Staff Pension Scheme
25. Tropical Farm Management Staff Provident Fund
26. Undugu Society Staff Pension Scheme
27. United Nations Sacco Society Staff Provident Fund
28. Venus Tea Brokers Limited Staff Provident Fund
29. W.E.C Lines(Kenya) Limited Staff Provident Fund