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# Evaluation of determinants on the financial performance of retirement benefit schemes in Kenya

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**EVALUATION OF DETERMINANTS ON THE FINANCIAL PERFORMANCE OF  
RETIREMENT BENEFIT SCHEMES IN KENYA.**

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**008651**

**Submitted in partial fulfilment of the requirements for the award of Master of  
Commerce degree, Strathmore University**

**School of Management and Commerce**

**Strathmore University**

**June, 2017**

**DECLARATION**

I declare that this thesis is my original work and has not been presented to any other university for a ward of a degree. Any work done by other people has been duly acknowledged. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person. It has been examined by a board of Examiners of the Strathmore University

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## **ABSTRACT**

The main objective of this study was to evaluate determinants on the financial performance of retirement benefit schemes in Kenya. The specific objectives were: to establish the effect of determinants on the financial performance of retirement benefit schemes in Kenya and to investigate the perception of stakeholders regarding determinants on the financial performance of retirement benefit schemes in Kenya. This study used quantitative design to determine the financial performance relationship with determinants of performance. The population for this study were the 1262 retirement benefit schemes registered with the Retirement Benefit Authority, RBA by close of 2013. Simple random sampling was used and Fishers formula was used to come up with sample size of 48 private pension funds. The study used primary and secondary data. The secondary data is quantitative in nature and was collected from the annual financial statements of the pension funds. Primary data was both qualitative and quantitative in nature and was collected using questionnaires. The study findings revealed that age of contributors, leverage of fund, contributions received, fixed income investment, equity investment, offshore investment, fund liquidity does not have an influence on the financial performance of retirement schemes. The study recommended that future studies focus on corporate governance practices as determinants of the financial performance of retirement benefit schemes in Kenya.

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May God Bless You All.

## **LIST OF ABBREVIATIONS**

CEE	Central and Eastern European
DB	Defined benefit
DC	Defined contribution
EBRI	Employee Benefit Research Institute
LAC	Latin American Countries
NSSF	National Social Security Fund
OECD	Organisation for Economic Cooperation and development
RBA	Retirement Benefits Authority
RBS	Retirement Benefit Scheme
ROA	Return on Assets
SPSS	Statistical package for the social sciences

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of the Study**

Pension funds owe its presence way back in colonial periods, when the programs of social welfare were introduced by the then colonial administration government. There have been noted quite advancements as well as major growth of the pension funds in the recent past worldwide. All across the globe, retirement benefit schemes have been operating guided by fundamental doctrines which are aimed in retirement benefit schemes growth in order to facilitate more than enough replacement rate for life in retirement without compromising the security of pension investments (Barrow, 2008). Notwithstanding the specific type of a pension scheme investment choices should be considered, taking the retirement benefits that are guaranteed or focused on. As such, the key assignment is to guarantee that assets are sufficient to pay for liabilities at the time they fall due. On account of a defined benefit (DB) plan, the liabilities of the plan are characterized by the commitments stipulated in the course of action. In a defined contributory (DC) plan, on the other hand, every individual from the plan must figure out what his focused benefit level is.

Sze, (2008) contends that millions of the people in the globe depend on the Pension funds as their principal sources of income at their retirement age. In Kenya, most of the total income of retirees is composed of 68% of the total retirement income (Kakwani, Sun and Hinz, 2006), In Austria, its composed of 44%, 45% in Australia, 80% in France while 75% of elderly people in South Africa 75% depends majorly on pension income (Alliance Global Investors, 2007). In the United States of America, 82% of elderly people rely heavily on pension income (EBRI, 2007).

Retirement benefit schemes is defined by the Retirement Benefits Act 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.”

Mworia, (2000) opines retirement benefit schemes as facilitators of deferred wages, with unique features such as monetary payment of specified amounts in advance for specified/unspecified period of payment.

Wanyama (2001) stated that most companies and practically all government departments have some type of employee pension plan. As an investment vehicle, it seeks to provide individuals with a sufficient and consistent source of income after retirement when they are no longer earning a regular income from employment.

### **1.1.1 Determinants**

There are several factors that affect the financial 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 channeled into investment activities thus earning more income. On the other hand if most of the contributors are old and almost attaining retirement, the scheme 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 financial performance. If a fund has many contributors who are capable of channeling 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 is not large enough to enable the fund to enter into any meaningful asset investment (Bodie et al, 2009)

### **1.1.2 Financial performance of pension funds**

Retirement benefit schemes' financial performance can be assessed by evaluating the increase in income streams. The main source of funding for retirement benefit schemes is the contributions received. An increase in contributions can arise where there is an increase in scheme membership, increase in individual contributions resulting from increase in members' salaries and/or a change in scheme rules increasing the percentage of contributions. The other source of income for pensions is the net returns made from investment of contributions. Net returns will increase where economic factors are favourable and where prudent investment decisions are made that diversify risks. The increase in income, coupled with reduction in administrative costs will lead to an increase in the fund value of a scheme. It is the increase in fund value that is used to determine the overall financial performance of a scheme. Schemes whose financial performance is healthy will generally be able to safeguard and grow members' funds; hence such schemes will be in a position to meet their financial liabilities to members who retire.

Van Horne et al (2010) define pension performance as the earnings that members receive after investment of their contributions. These vary from one pension fund to another. 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 a matrix of correlations between labour income and equity returns.

## **1.2 Statement of the Problem**

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. If retirement benefit schemes are not well managed or if workers do not save for their pension then during retirement years or if employers fail to remit pension contributions, Kenyans will be exposed to poverty in their old age.

Past studies have presented unclear results regarding the determinants of retirement benefit schemes in Kenya. Njuguna (2011) carried out a study on the determinants of pension fund corporate governance in Kenya and established that the key determinants included pension governance, leadership, and members age while pension the plan design whether defined benefit or defined contribution plan and number of members did not have significant influence. Ngetich (2012) carried out a study on determinants of the growth of individual retirement benefit schemes in Kenya and established that fund governance exerted a

significant relationship on the growth of the retirement benefit schemes. Shikhule et al. (2012) also conducted a study on determinants of retirement benefit schemes governance effectiveness in Kenya and revealed that knowledge of the trustee's covenants by the members, information flow to members and participation of members in the governance of retirement benefit schemes are the main factors that influence effectiveness of governance of retirement benefit schemes. The key role played by retirement benefit schemes in the economy and the unclear determinants of retirement benefit schemes in Kenya are the motivators of this research.

### **1.3. Objectives of the study**

The main objective of this study was to assess the determinants on the financial performance of retirement benefit schemes in Kenya. The specific objectives included:

1. To establish the effect of determinants on the financial performance of retirement benefit schemes in Kenya.
2. To investigate the perception of stakeholders regarding determinants on the financial performance of retirement benefit schemes in Kenya.

### **1.4. Research questions**

The research questions are:

1. What is the effect of determinants on the financial performance of retirement benefit schemes in Kenya?
2. What is the perception of stakeholders regarding determinants on the financial performance of pension funds in Kenya?

### **1.5. The Scope of the Study.**

The study sought to establish the effect of determinants on the financial performance of retirement benefit schemes in Kenya and to investigate the perception of stakeholders

regarding determinants on the financial performance of retirement benefit schemes in Kenya. This research was focused on all the retirement benefit schemes in Kenya and covered a period of 10 years from 2006 to 2015.

### **1.6. Significance of the Study**

Policy makers who work for pension funds in Kenya will get a clear understanding on the factors that affect the financial 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 financial performance of pension funds. This will enable the government to put in place any appropriate regulations to enhance and sustain performance of pension funds.

The government would thus be interested in knowing how well the sector is doing financially as this has implications on the overall performance of the economy. RBA and the government would be interested to know if the findings of the study justify the efforts and the resources put into regulating the sector.

The contributors of funds would be interested in knowing how well their funds are growing because this has an implication on returns they receive at retirement. The findings of this study will be a significant contribution to the existing literature on financial 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.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter reviewed the theories guiding the study, followed by determinants of financial performance of retirement benefit schemes in Kenya and a review of the previous theoretical literature. The chapter was completed by a section of conclusions from the literature review indicating the gaps that the literature is addressing.

### **2.2 Theoretical Review**

This section discussed the relevant theories. The study reviewed the portfolio theory, resource dependency theory, agency theory and the life cycle theory. Portfolio theory contends that investors are risk averse; meaning that, given a choice between two assets with equal rates of return, they will select the asset with the lower level of risk. Resource dependency theory argues that the goal of an organization is to minimize its dependence on other organizations for the supply of scarce resources in its environment and to find ways of influencing them to make resources available.

Agency theory is defined as the relationship between the principals, such as shareholders and agents such as the company executives and managers. In this theory, shareholders who are the owners or principals of the company, hires the agents to perform work. The life cycle theorists argue that human beings move through a static set of phases that are outside their control. The model suggests that the life movement through a fixed sequence of irreversible stages which are cyclical in nature and may repeat themselves from one generation to the next (Settersten, 2003).

### **2.2.1 Portfolio Theory**

The basic portfolio model was developed by Markowitz (1952) and one basic assumption of this theory is that an investor wants to maximize the returns from investments for a given level of risk. According to Markowitz, the full spectrum of investments must be considered because the returns from all these investments interact, and this relationship between the returns for assets in the portfolio is important.

Markowitz (1952) contends that there is generally a positive relationship between the rates of return on various assets and their measures of risk. Markowitz derived the expected rate of return for a portfolio of assets and an expected risk measure. Markowitz also showed that the variance of the rate of return was a meaningful measure of portfolio risk under a reasonable set of assumptions, and he derived the formula for computing the variance of a portfolio. This portfolio variance formula indicated the importance of diversifying investments to reduce the total risk of a portfolio and also showed how to effectively diversify.

According to Markowitz (1952), a single asset or portfolio of assets is considered to be efficient if no other asset or portfolio of assets offers higher expected return with the same or lower risk, or lower risk with the same higher expected return. One of the best-known measures of risk is the variance, or standard deviation of expected returns. It is a statistical measure of the dispersion of returns around the expected value whereby larger variance or standard deviation indicates greater dispersion. The idea is that the more disperse the expected returns, the greater the uncertainty of future returns. The expected rate of return for a portfolio of investments is simply the weighted average of the expected rates of return for the individual investments in the portfolio. The weights are the proportion of total value for the investment. The variance, or standard deviation, is a measure of the variation of possible rates of return, from the expected rate of return.

Fund managers therefore diversify their investments to make sure that the returns to the pensioners are maximized (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.

### **2.2.2 Resource Dependency Theory**

This theory focuses on the role that directors play in providing or securing essential resources to an organization through their linkages to the external environment. Organizations attempt to manage their transactions with the environment to ensure access to the resources they depend on. The strength of one organization's dependence on another for a particular resource is a function of the following factors: how vital the resource is to the organization's survival and the extent to which other organizations control the resource. Retirement benefit schemes, for example, need the expertise of fund managers and custodians for the purposes of investing scheme assets. Actuaries are also necessary in providing advice on the funding position of the retirement benefit schemes and insurance companies are also important for the provision of annuities for members retiring from the scheme. The greater the dependence of one organization on another, the weaker it is and the more powerful organization can take advantage of the dependent one if it chooses to do so. Organizations thus attempt to manage their resource dependence and control their access to scarce resources through development of strategies (Jones, 2010).

### **2.2.3 Agency Theory**

The agency theory is one of the theories that has been applied in corporate governance. It was developed by Jensen and Meckling (1976). According to the authors, corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the corporation such as the board, managers, shareholders and other stakeholders and spells out the rules and procedure for making decisions on corporate affairs.

By doing this it provides the structure through which the company objectives are set and the means of attaining those objectives and to monitoring performance. The average shareholder, for example, has no in depth knowledge of the investments industry or how retirement benefit schemes are managed. They therefore appoint trustees who are presumed to be experts in the field to present their needs and interests. This delegation of authority to trustees creates an agency problem that is a problem determining managerial accountability. In delegating authority, the shareholders lose, to a large extent, their ability to influence managerial decision making. The trustees may prefer to pursue long term investment strategies for the security of retirement benefits while the shareholders may have preferred short term investment strategies of the scheme funds for short term gains. Trustees may also increase their remuneration while the shareholders would not have preferred the same.

Good corporate governance is recognized as an important aspect of an efficient private pension system, enhancing investment performance and benefit security (Stewart and Yermo, 2008). It is beneficial to corporations and also bolsters the level of market confidence and integrity and strengthens financial stability. In addition, good corporate governance can also have positive impact to the corporation such as creating trust amongst all stakeholders, reducing the costs of over regulation, and facilitates supervision.

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.

#### **2.2.4 The Life Cycle theory.**

The lifecycle theory by Modigliani, (1963) deals with economic decisions on retirement saving in particular the rationalization of an individual's income in order to maximize its utility over his lifetime. It stated that households accumulate savings during their working careers up to their retirement, and de-accumulate wealth thereafter. This type of saving behaviour enables households to smoothen their marginal utility of consumption over the lifecycle. This model assumes the following assumptions about human behaviour. They are forward looking across the span of their lifetimes; they can predict the financial resources they will have over their lifetime, they understand something about the financial resources they will need in successive periods of their lives, they make informed choices about the use of their financial resources.

The underlying thesis in the life cycle approach is that individuals spend their first phase of life preparing for a professional career. They then begin to earn a wage which is initially insufficient for their needs. In the second phase of life, employees earn to accumulate wealth which they save for later use at retirement. Upon retirement, which is the third phase of life, individuals spend their accumulated savings to sponsor their consumption for the rest of their life. Hence, the individual's capacity to support their retirement period is incumbent upon their earlier saving culture.

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, it 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 Determinants of financial Performance of Pension Funds**

### **2.3.1 Age of contributors**

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. 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. Retirement benefit 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).

### **2.3.2 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 retirement benefit schemes and other collective investments, there is no difference in the performance measures that are applied to evaluate the financial 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 financial performance of pension funds to provide retirement income to their members. Other 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).

### **2.3.3 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).

## **2.4 Empirical Review**

This section compares previous research done on the effect of determinants on the financial performance of retirement benefit schemes in Kenya and the stakeholders' perception on the effect of determinants on financial performance of retirement benefit schemes in Kenya.

#### **2.4.1 Determinants of financial performance of retirement benefit schemes in Kenya.**

Al-tally (2014) investigated the effect of financial leverage on firm profitability in Saudi Arabia's public listed companies. The overall results of this study were that, in the long term, in the absence of acute economic downturns, lower leverage levels tend to lead to higher profit margins and returns on both assets and equity. The study recommended that, under normal economic conditions, Saudi Arabian firms could attempt to improve their profitability by balancing their liabilities with their leverage borrowing levels. Another recommendation made by this study is that more studies are needed to examine liabilities calculation standards and liabilities effect on firms' capital structure and society.

Davydov (2014) examined corporate debt financing sources and their implications for firm financial performance in Finland. The results of the study provided evidence to suggest that higher levels of bank debt may enhance firm profitability, as measured by ROA. The study concluded that debt source choice is an important determinant of firm performance and may be particularly valuable in times of financial turmoil. Pastor and Stambaugh (2003) researched on liquidity risk and expected stock returns in U.S between the period 1966 and 1999. The study investigated whether market wide liquidity is a state variable important in asset pricing. The study established that expected stock returns are related cross-sectionally to the sensitivities of returns to fluctuations in aggregate liquidity. According to the study, liquidity is abroad and elusive concept that generally denotes the ability to trade large quantities quickly, at low cost, and without moving the price.

Ferreira et al. (2012) analyzed the determinants of mutual fund performance in 27 countries over 1997–2007 period. It was noted from the study that liquidity constraints have been a major constraints in the development of US and as a result, small and domestic stocks are

majorly invested on. Better performance of funds was recorded in countries tough legal institutions as well as those whose market stocks are liquid. With no doubt, the pension funds in US which invested in illiquid and small stocks were the most affected by the scale negative, but the case was not similar with other non-US pension funds.

Tonks (2005) carried out a study 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.

Antolin (2008) did a comparative study on the financial 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.

Nguthu (2009), did a study on the effect of assets allocation on retirement Benefits schemes performance in Kenya. The objectives of the study were to determine how much of the variations of returns among retirement benefits schemes in Kenya are explained by asset allocation and also the level of returns which is explained by assets allocation. A sample of 40 schemes was drawn from a population of 400 segregated occupational schemes in Kenya. The secondary data on retirement benefit schemes assets allocation and returns was obtained from Retirement benefits Authority was analysed using regression analysis and descriptive statistics. Regression was done on the fund returns to the policy returns over time to determine the policy impact on variation over time. Regression was also done on the compounded annual fund returns to the compounded annual policy returns among schemes to determine the impact of assets allocation differences of schemes on the variability of returns. To determine the level of returns which is explained by assets allocation, the researcher computed the ratio of the average annualized total returns for each scheme to the average annualized policy returns. The study shows that the variation in returns over time for retirement benefit schemes is explained up to 62.4% by investment policy adopted by the trustees of the scheme. Other factors such as securities selection, timing of investments and managers selection explain the remainder. Differences in investment policies explained 37% of the variations on the return among different schemes. Further the study established that

policy explains 100% of the total fund returns level of the schemes in Kenya. This shows that on average, schemes are not adding value above their policy benchmark because of the combination of the active management and the associated management expenses. It is possible for an investor who has the ability to select superior managers before committing funds to earn above average returns.

Ammann and Zingg (2008) focused on the performance of Swiss pension funds by looking at the linkage of the governance of pension fund and their performance. A sample size of 96 pension funds and only those who reported total assets of not less than CHF 190 billion were considered in the study. The study noted that good corporate governance, with well set targets and strategies of investments is of key importance on the success of the pension funds. On the other, hand, it was argued that controlling and steering investment rules, and communication have no significant influence on performance.

Kusewa (2009) did a study on the impact of regulation of the retirement benefits sector on the financial performance of occupational retirement benefit schemes in Kenya. This study was interested in establishing whether retirement benefit schemes financial performance is dependent on regulations enactments. The study covered a longer period i.e. five years before and five years after the enactment of the regulations in year 2000. In her study, the indicators of financial performance used were the total contributions from members for the year and fund values at year end. According to the study, increase in total contributions is influenced by the number of members in the scheme, the member's pay (where the pension is a proportion of the salary) and the additional voluntary contributions made by members. The fund value at the end of the year is the balance of total contributions and investment income net of the withdrawal benefits and other expenses. This is what is reinvested in the scheme to

give a return to members. The fund value, therefore, gives an indication of the size of the scheme in terms of its assets value. The average annual percentage increase in the size of the fund was used as an indicator of financial performance. Thirty occupational retirement benefit schemes were considered as the sample of the study and scheme administrators provided the data for this study. For each scheme in the sample, their fund values as well as total contributions were analysed within a span of ten years, five before 2000 and five after the year 2000. Using the matched or paired t-test, findings indicated that there was a significant positive impact in the financial performance of the population of occupational retirement benefit schemes in the period in which the regulations have been in place.

#### **2.4.2 Perception of stakeholders .**

Meng and Pfau (2010) reveal that the need for well managed pension funds across many nations is as a result of growing populations. According to Awino (2013), the sound financial performance of pension funds therefore becomes critical in addressing the sustainability of the pension system, which is very important for economic development in many nations.

According to Kabiru (2009), embezzlement and mismanagement of public funds is the biggest obstacle to achieving the millennium development goals in developing countries. This also manifests itself in the pension fund plan. Otieno (2003), on 'Challenges facing management of pension funds' in Kenya, also cites poor governance as a challenge threatening the sustainability of pension funds in the country. The author gives the example of the University of Nairobi, Railway Corporation, and National Social Security Fund Pension Funds being unable to pay or paid less than the minimum portfolio return in Kenyan Market (Gordon, Jephchonge and Kibet, 2010).

An article by Muriithi and Wamari (2013) mentioned that if there were a frustrated lot of pensioners in the country, they are the ageing men and women who retired from the Kenya

Railways Corporation decades ago. The NSSF has also been experiencing problems and has hit the headlines. Report by the Kenya Anti-Corruption Commission highlighted various cases of corruption in irregular allocation and transfer of shares belonging to NSSF which sunk with discount securities. It also mentioned irregular sale and transfer of plots by senior management (Kenya Anti-corruption Report, 2010).

Borbon (1999), notes the importance of adequate regulation in improving governance of retirement benefit schemes. He contends that for private arrangements, be it individual or enterprises, regulation is important to increase transparency and protect beneficiaries. Private pension arrangements as they have emerged in some countries often failed to provide accurate information regarding costs, returns and balances, making it difficult for beneficiaries to compare among providers. Insurance companies as part of their life business often provide private pension arrangements.

Kwena (2013) highlighted some of the low coverage reasons to be associated with the fact that pension saving is a voluntary exercise, there is no universal pension, and low replacement rates where people not saving enough to increase income replacement ratios at retirement. To try and increase the coverage in retirement schemes RBA has recently introduced the Mbao Pension Plan which is a voluntary individual account savings plan to which all workers in Kenya may contribute without regard to income or age has recently been introduced. It is designed to provide a programme that is suitable for the unique nature of the informal sector and to encourage a savings culture for those workers.

## **2.5 Summary of the Literature Review**

The chapter has presented the theories that were used to guide the study. These theories are Portfolio theory, resource dependency theory, the Agency theory, and the Life Cycle Theory.

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.

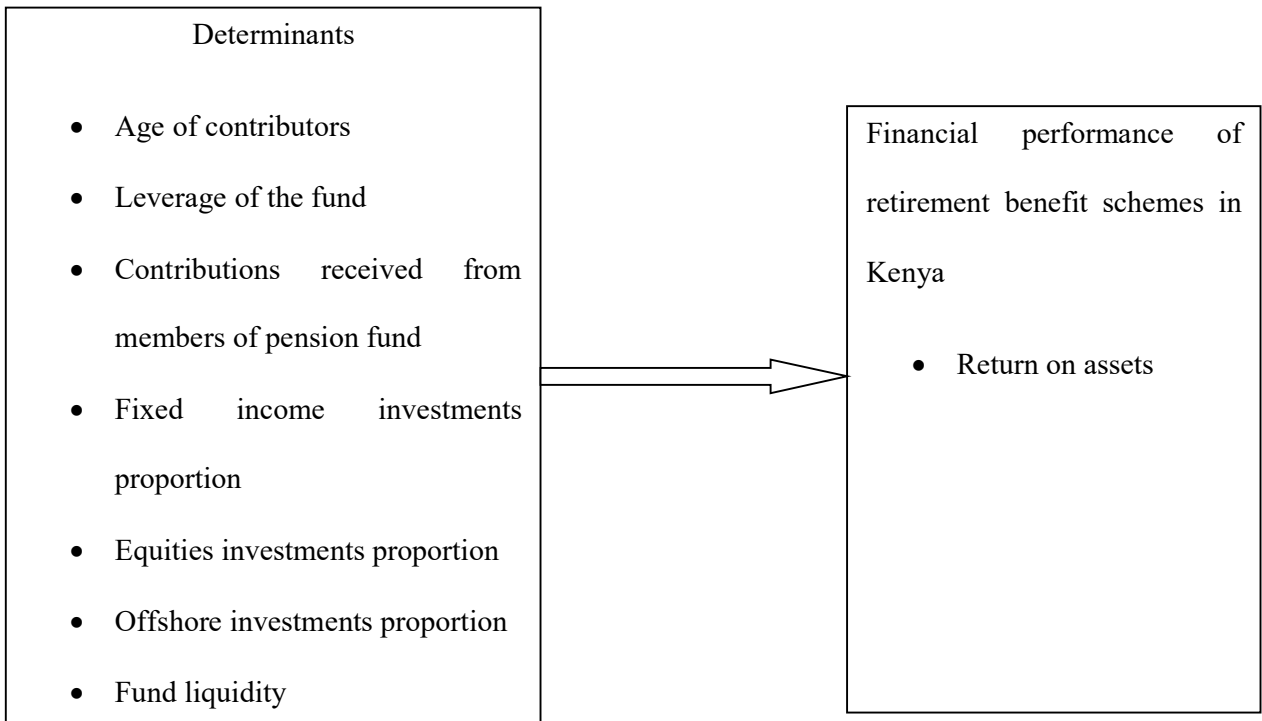
## **2.6 Conceptual framework**

Conceptual framework shows diagrammatically the relationship between the variables of a study. It specifically, demonstrates the relationship between the independent variables and the dependent variable. In this study, the independent variables are the determinants which are indicated by age of contributors, leverage of the fund, contributions received from members of pension fund, fixed income investments proportion, equities investments proportion, offshore investments proportion and fund liquidity, while the dependent variable was financial performance of retirement benefit schemes in Kenya and was measured by return on assets. The conceptual framework in this study is as summarised in Figure 2.1

## 2.1: Conceptual framework

### Independent variables

### Dependent Variable



Source (Author, 2017)

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter outlines the methodological techniques that was used in the study. The section describes the research design, data collection, data analysis and lastly the model that were used in the study.

### **3.2 Research Design**

The study used mixed research. Descriptive design was used for qualitative data derived from questionnaires, while quantitative design was used for data derived from financial statements. Descriptive design discovers and measures the cause and effect of relationships between variables (Khalid, Abdullah & Kumar, 2012). The justification for choosing the research design is the fact that the researcher only describe or explain the relationships, if any, that exists between variables but cannot alter those relationships.

### **3.3 Population of Study**

The population for this study were the 1262 retirement benefit schemes registered with the Retirement Benefit Authority, RBA by close of 2013. The retirement benefit schemes provided insight information on the determinants on financial performance of retirement benefit schemes. In Kenya the public pension fund is only one in the name of NSSF. The rest are private. The private pension fund formed the population.

### **3.4 Sampling Technique**

Simple random sampling was used. Sample Size Calculation was guided by Fishers formula and was calculated as indicated below:

$$\text{Sample Size} = \frac{Z^2 * (p) * (1-p)}{c^2}$$

(Fisher, 2006)

Where:

Z = Z value (e.g. 1.96 for 95% confidence level)

p = percentage picking a choice, expressed as decimal

(.5 = 50% used for sample size needed)

c = confidence interval, expressed as decimal .At 95% confidence level, the sample size would be

Z value = 95%=1.96

P= 50%=0.5

C= 2

$1.96*1.96*0.5*0.5/ 0.02=48.02 =48$

Sample size were 48 private pension funds.

### **3.5 Data Collection**

The study used primary and secondary data. The secondary data is 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 ten years from 2006 to 2015. Data on perception of stakeholders were collected using a questionnaire.

### 3.6 Data Analysis

The Financial performance of pension funds data were analysed using return on assets (ROA) ratio as used in the studies by (Adeoti , 2012),(Oluoch, 2013). The 2<sup>nd</sup> specific objective on examining the perception of stakeholders regarding the effect of specific firm determinants on the financial performance of retirement benefit schemes in Kenya were analysed using a multi-regression model as follows:

$$Pf = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + B_5 X_5 + B_6 X_6 + B_7 X_7 + e$$

Where:

Pf = Financial performance

X1 = Age of contributors

X2 = Leverage of the fund

X3 = Contributions received from members of pension fund

X4 =Fixed income investments proportion

X5 = Equities investments proportion

X6 = Offshore investments proportion

X7 = Fund liquidity

The terms B0 and B1 represent the intercept in the regression and the sensitivity of performance on each of the variables. The t-test at 95 % confidence level was used to determine the statistical significance of the constant terms, B0 and B1 the coefficient terms. The F-test was used to determine whether the regression was of statistical importance at 95 % confidence level. The coefficient of determination, R-squared and the R-squared adjusted

were used to determine how much variation in the dependent variables is explained by variation in the independent variables.

### **3.7 Operationalization of Variables**

The dependent and independent variables of the multi-regression model employed in the research were operationalized in Table 3.1.

**Table 3.1: Operationalization of Variables**

S/N	VARIABLES	OPERATIONALISATION	REFERENCES
	<b>Dependent Variable:</b>		
1.	Financial performance of pension funds (dependent variable)	Returns on asset (ROA) ratio	Adeoti, (2012),  Oluoch, (2013)
	<b>Independent Variables:</b>		
2.	Age of contributors	<u>Average age of members in years</u> 100 years	Oluoch, (2013)  Fries, (2012)
3.	Leverage of the fund	<u>Total fund liabilities</u> Total fund assets	Oluoch (2013)
4.	Contributions received from members of pension fund	<u>Contributions received</u> Value of fund assets	Oluoch, (2013)
5.	Fixed income investments proportion	<u>Investment in fixed income assets</u> Total investments value	Njeru et. al (2015)
6.	Equities investments proportion	<u>Investment in equities</u> Total investments value	Njeru et. al (2015)
7.	Offshore investments proportion	<u>Investment on off shore securities</u> Total investments value	Njeru et. al (2015)
8.	Fund liquidity	<u>Cash and cash equivalents</u> Total assets value	Njeru et. al (2015)

Source (Author, 2017)

## **CHAPTER FOUR: DATA ANALYSIS RESULTS AND DISCUSSION**

### **4.1 Introduction**

In this chapter, the data analysis findings are presented. The data of the sampled schemes was collected and analysed in response to the objective of the study. The objective of the study was to establish the effect of determinants on the financial performance of retirement benefit schemes in Kenya. The findings presented in this chapter demonstrate the relationship between determinants and financial performance of retirement benefit schemes and illustrates further the extent to which each determinants contributes to the overall financial performance of the fund.

### **4.2 Response Rate**

The research was conducted on a sample of 48 respondents. The statistics analysis was used to show the relationships between variables. All the 48 questionnaires were duly filled and this represents a response rate of 100%. This response rate is considered satisfactory to make conclusions for the study. According to Mugenda & Mugenda (2003), a 50% response rate is adequate, 60% good and above 70% rated very well. This also collaborates Bailey (2000) assertion that a response rate of 50% is adequate, while a response rate greater than 70% is very good. Based on this assertion, the response rate of 100% is very good.

### **4.3 Tests of Normality Results**

The normality test hypothesis for K-S test is H1: data was not normally distributed. The results as per Table 4.3 indicated that the dependent variable (ROA) was normally distributed with p-value being 0.34 which was higher than 0.05 at 95% level of significance. The independent variables however were not normally distributed with p-values being less than 0.05 which implied that the secondary data was generally suitable for non-parametric test analysis (Ambrosio and Kinniry, 2009). However, since the sample size was 48 parametric

tests can still be carried out on the data due to the large sample size of over 30 (Gujarati and Porter, 1999).

**Table 4.3 Secondary Data Normality Test Results**

	N	Normal Parameters <sup>a,b</sup>		Most Extreme Differences			Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
		Mean	Std. Deviation	Absolute	Positive	Negative		
ROA	48	4.706	2.7269	.136	.136	-.109	.940	<b>.340</b>
Contributors age	48	4.458	.84949	.342	.262	-.342	2.372	<b>.000</b>
Fund leverage	48	4.395	1.0667	.381	.286	-.381	2.640	<b>.000</b>
Contributions	48	4.375	.89025	.321	.241	-.321	2.225	<b>.000</b>
Fixed income investments	48	3.895	.99444	.333	.208	-.333	2.310	<b>.000</b>
Equity investments	48	3.958	.96664	.330	.212	-.330	2.284	<b>.000</b>
Off shore investments	48	4.395	1.0667	.381	.286	-.381	2.640	<b>.000</b>
Fund liquidity	48	4.375	.89025	.321	.241	-.321	2.225	<b>.000</b>

The normality test hypothesis for K-S test is H1: data was not normally distributed. The results as per Table 4.3 indicated that the independent variables data was normally distributed with p-values being more than 0.05. This implied that the secondary data was generally suitable for parametric test analysis (Ambrosio and Kinniry, 2009).

#### 4.4 Serial Correlation Test of the Secondary Data

The Breusch-Godfrey serial correlation test results hypothesis is H1: serial correlation is present in the data. Since the results of Table 4.4 indicated that p-values were less than 0.05 at 95% level of significance, the null hypothesis of lack of serial correlation was rejected.

**Table 4.4: Serial Correlation Test Results of the Secondary Data**

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	66.95428	<b>Prob. F(1,39)</b>	<b>0.0000</b>
Obs*R-squared	30.33200	<b>Prob. Chi-Square(1)</b>	<b>0.0000</b>

**4.5 Heteroskedasticity Test**

The Breusch-Pagan-Godfrey heteroskedasticity test was carried out whose hypothesis is  $H_1$ : Data is heteroscedastic. The results indicated that the data was homoscedastic with p-values of less than 0.05 (at 95% level of significance) as per Table 4.5.

**Table 4.5: Heteroskedasticity Test Results**

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.965918	<b>Prob. F(7,40)</b>	<b>0.4689</b>
Obs*R-squared	6.940515	<b>Prob. Chi-Square(7)</b>	<b>0.4351</b>
Scaled explained SS	5.130757	<b>Prob. Chi-Square(7)</b>	<b>0.6440</b>

**4.6. Coefficient of Determination (R-Square) Results**

The coefficient of determination R-Square test results indicated 11.1% as per Table 4.6 which implied that the model was not a good fit. The adjusted R-Square of 0.5% indicated that 99.5% of the dependent variable (ROA) could not be explained by the independent variables as per Table 4.6.

**Table 4.6: Coefficient of Determination R-Square Results**

<b>Model Summary</b>				
Model	R	<b>R Square</b>	Adjusted R Square	Std. Error of the Estimate
1	.333 <sup>a</sup>	<b>.111</b>	.005	2.71972
a. Predictors: (Constant), fund liquidity, contributors age, offshore investments, fixed income investments, equity investments				

#### 4.7 Regression Analysis Results

The results of the multi-regression analysis indicated that none of the independent variables significantly influenced the dependent variable (ROA) with p-values being more than 0.05 at 95% level of significance.

**Table 4.7: Regression Analysis Results**

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.460	5.051		-.289	<b>.774</b>
	Contributors age	.697	.492	.217	1.416	<b>.164</b>
	Fixed income investments	.503	.445	.183	1.129	<b>.265</b>
	Equity investments	.341	.477	.121	.713	<b>.480</b>
	Offshore investments	.274	.391	.107	.700	<b>.488</b>
	Fund liquidity	-.332	.466	-.108	-.712	<b>.480</b>

a. Dependent Variable: ROA, Excluded variables: Fund leverage and Contributions with collinearity statistics indicating tolerance of 0.000

#### 4.8 Primary Data Analysis Results

The final objective of the study sought to investigate the perception of stakeholders regarding determinants on the financial performance of retirement benefit schemes in Kenya. Primary data in form of questionnaire was used to address this objective.

##### 4.8.1 Descriptive Analysis Results on Determinants of Financial performance.

The results of descriptive analysis on the influence of independent variables on ROA the dependent variable showed that all the determinants were significantly influencing performance of retirement benefit schemes as since all the mean values of the questionnaire responses were above 3 in a 5 point likert scale as indicated in Table 4.8

**Table 4.8: Results of Descriptive Analysis on Determinants of ROA of Retirement benefit schemes**

<b>Determinants of ROA in Kenyan Retirement benefit schemes</b>	<b>Mean</b>	<b>Standard deviation</b>
Age of contributors	<b>4.45</b>	0.84
Leverage of the fund	<b>4.39</b>	1.06
Contributions received	<b>4.37</b>	0.89
Fixed income investments proportion	<b>3.89</b>	0.99
Equities investments proportion	<b>3.95</b>	0.96
Offshore investments proportion	<b>4.39</b>	1.06
Fund liquidity	<b>4.37</b>	0.89

#### **4.9 Triangulation of Primary and Secondary Data Results**

Based on the findings in Table 4.9, it was evident that there existed inconsistency with regard to primary data results and secondary data results where primary data results showed a strong significant influence between the independent and dependent variables while the secondary data results showed insignificant influence.

**Table 4.9 Significance of Determinants of ROA Triangulation between Primary and Secondary Data**

<b>Determinants of ROA in Kenyan Retirement benefit schemes</b>	<b>Primary Data Results (Perceptions)</b>	<b>Secondary Data Results (Financial data)</b>	<b>Level of Consistency Between Primary and Secondary Data Results</b>
Age of contributors	Very significant	Not significant	Inconsistent
Leverage of the fund	Very significant	Not significant	Inconsistent
Contributions received	Very significant	Not significant	Inconsistent
Fixed income investments proportion	Very significant	Not significant	Inconsistent
Equities investments proportion	Very significant	Not significant	Inconsistent
Offshore investments proportion	Very significant	Not significant	Inconsistent
Fund liquidity	Very significant	Not significant	Inconsistent

## **CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter covers discussions, conclusions and recommendations drawn from the results obtained in the previous chapter and literature review. The discussion looks at the determinants of financial performance of retirement benefit schemes in Kenya. This chapter further gives the recommendations that can be made from the findings to retirement benefit schemes, and other organizations of similar nature.

### **5.2 Discussions**

#### **5.2.1 Determinants of financial performance of pension schemes .**

The findings of the regression analysis indicated that none of the independent variables significantly influenced the dependent variable (ROA) with p-values being more than 0.05 at 95% level of significance. The coefficient of contributor's age variable was not statistically significant but was positive. This indicates that the analysis did not find a significant relationship between return on assets of the pension funds and the age of contributors. The coefficient of fixed income proportion variable was not statistically significant. This indicated that return on asset was not influenced by fixed income proportion. The coefficient of equity investment was not statistically significant indicating that equity investment did not affect return on asset. The coefficient of offshore investment was not statistically significant indicating that offshore investment did not affect returns on asset. The coefficient of Fund liquidity was negative, indicating that fund liquidity did not influence return on asset.

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

retirement benefit 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 relationship between age and return on asset 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 relationship between fixed income and returns on asset of the pension funds indicating that fixed income did not affect financial performance of the pension funds. 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 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. Lower contributions to a pension scheme was found to imply lower pension benefits.

The findings of this study seem to confirm the findings of Jackowicz and Kowalewski (2011) that attributed performance not on age of contributors, contribution, fixed income 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. In summary the secondary data analysis presented mixed results about the determinants of financial performance of retirement benefit schemes in Kenya.

### **5.2.2 Perception of Stakeholders Regarding Determinants**

The results of descriptive analysis on the influence of independent variables on ROA the dependent variable showed that all the determinants were significantly influencing performance of retirement benefit schemes as since all the mean values of the questionnaire responses were above 3 in a 5 point likert scale. The findings of this study that equity investment influences financial performance of retirement benefit schemes seem to confirm the findings by 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 revealed that average age of members determines financial performance of the pension scheme very significantly. Similar to the study findings, Lungu (2009) found out that one of the very important variables in explaining the financial performance of a pension funds is the age of a contributor. The findings of this study that leverage of the fund determines financial performance of the pension scheme very strongly confirms the study findings by Al-tally (2014) who observed that, in the long term, in the absence of acute economic downturns, lower leverage levels tend to lead to higher profit margins and returns on both assets and equity. He recommended that, under normal economic conditions, Saudi Arabian firms could attempt to improve their profitability by balancing their liabilities with their leverage borrowing levels.

The study findings that contributions received from members significantly determines financial performance of the pension scheme agree with the study findings carried out by Tonks (2005) who found 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. In addition the study established that equities investments proportion determines financial performance of the pension scheme to a great extent. Similarly, Nguthu (2009) noted that the variation in returns over time for retirement benefit schemes is explained up to 62.4% by investment policy adopted by the trustees of the scheme. Other factors such as securities selection, timing of investments and managers selection explain the remainder.

Differences in investment policies explained 37% of the variations on the return among different schemes. Further the study established that policy explains 100% of the total fund returns level of the schemes in Kenya. This shows that on average, schemes are not adding

value above their policy benchmark because of the combination of the active management and the associated management expenses. It is possible for an investor who has the ability to select superior managers before committing funds to earn above average returns.

Moreover, it was observed from the findings that offshore investments proportion determines financial performance of the pension scheme to an excellent extent. In agreement, Hinz, Rudolph, Antolin and Yermo, (2010) observed that there has been gradual shift in the pension plans structure, which are slowly transforming from defined benefits plans to other offshore investments proportion where assets whether private based owned or community based owned are used to secure the provision of the pensions. This shift have been moderated by the government which has focused more on investing the retirement income and minimizing more on the amount paid to the aging population. As a result, most pension firms are becoming more asset backed. This gradual transformation implies that retirement incomes relies on how the assets performs, putting the contributors in uncertainties as to what their returns shall be. The potential results of this kind of advancement is evident from the financial meltdown of 2008

The study revealed that pension fund's liquidity determines financial performance of the pension scheme to an excellent extent. Similarly, Ferreira et al. (2012) established that liquidity constraints have been a major constraints in the development of US and as a result, small and domestic stocks are majorly invested on. Better performance of funds was recorded in countries tough legal institutions as well as those whose market stocks are liquid. Pension funds in US which invested in illiquid and small stocks were the most affected by the scale negative, but the case was not similar with other non-US pension funds.

### **5.3 Conclusions**

Theoretical statement indicates that the return on asset of retirement benefit schemes are dependent upon age of contributors, contributions received, leverage of the fund, fixed income investment proportion, equities investment proportion, offshore investment, Fund liquidity. The theoretical expectation is that as these variables increases, so does the return on asset. This means a positive relationship between these variables and return on asset. However, empirical studies have found variations of relationships. This research was designed to find out the unique relationship between return on asset and, age and the contributions of the members, leverage of the fund, fixed income investment, equity investment, offshore investment, fund liquidity. Data was collected for the ten years beginning 2006 and ending 2015. Correlation analysis was done to find out the co-movements among the variables. Regression analysis was done by analyzing aggregate figure of the independent variables. Other than the regression model, t-tests, F-test and the coefficient of determination were used to find out the strength of the regression. Descriptive analysis was done on the primary data.

The regression results found that there was no relationship between dependent variable (RAO) and independent variables they were not significant as shown in the triangulation table. The descriptive analysis on the primary data showed a strong relationship between the dependent variable (RAO) and the independent variables they were all very significant. From the triangulation table there was inconsistency between the findings using regression analysis and descriptive analysis.

### **5.4 Recommendations and Areas for Further Research**

The mixed findings make it difficult to generate policy recommendations however areas of further research include studying the determinants of financial performance of retirement

funds in Kenya including factors like corporate governance practices in the schemes. The composition of trustees can also be studied in an effort to generate clear determinants.

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.

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 point for strategic plans for management of pension funds to obtain good financial performance.

Pension funds being a source of savings for the population. 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. Further studies could also be done to find out reasons for the inconsistency findings.

## REFERENCES

- RBA ACT (Revised 2010 edition) retrieved from [www.rba.go.ke](http://www.rba.go.ke)
- Adam and Tweneboah (2008) impact of macroeconomic variables on stock prices
- Adeoti, J.O & Oluoch, M.A, “ration analysis (ROA) ratio.
- Al-tally, H. A. (2014). An Investigation of the Effect of Financial Leverage on Firm Profitability in Saudi Arabia’s Public Listed Companies, (3): 529-609
- Ambrosio F. J and Kinniry F.M (2009), “Stock Market Volatility Measures in Perspective”, *Risk Journal*, Vol.34, Issue 1
- Ambrosio F. J and Kinniry F.M (2009), “Stock Market Volatility Measures in Perspective”, *Risk Journal*, Vol.34, Issue 1
- Ammann and Zingg (2008) Performance and Governance of Swiss Pension Funds.
- Antolin, S. “Performance of pension plan.”
- Baele L., Bekaert G, and Inghelbrecht K. (2010), “The determinants of stock and Bond Return Co movements”, *oxford journals*
- BaiBureh and Masimera (2014) Lack of pension scheme in Sierra Leone
- Beber, A. and Brandt W. (2008). Resolving Macroeconomic Uncertainty in Stock and Bond Markets”, *Oxford journals*
- Brinson, GP. , Singer D.B, Gilbert L.B (1991) “Determinants of Portfolio Performance II: An update”, *Financial Analysts Journal*
- Chirchir, D. (2013), “The relationship between share prices and interest rates: evidence from Kenya”, *School of business, University of Nairobi*
- Davydov, D. (2014). Essays on Debt Financing, Firm Performance, and Banking in Emerging Markets, Finland
- Fama E, & R. Fench (1989) “Business conditions and expected returns on stocks and bonds” *The journal of financial economics*

- Fama, E (1981), "Stock returns, real activity, inflation and money". *American Economic Review*
- Feldstein M. (1983), "Inflation and the stock market" *University of Chicago Press*
- Ferreira, M., Minuel, A. F., & Ramos, S. B. (2009). The determinants of mutual fund Performance: A cross-country study, Working Paper, Social Science Research Network
- Fries, J. F. (2012). Aging, natural death, and the compression of morbidity. *Bulletin of the World Health Organization*, 80(3), 245-250.
- Gazi S, & A. Mahmudul A. (2009), "Relationship between Interest Rate and Stock Price: Empirical Evidence from Developed and Developing Countries", *International Journal of Business and Management*, Vol 4, No. 3, 43-51
- Gliem J. A and Gliem R. R (2003), "Calculating, Interpreting and Reporting Cronbach's Alpha Reliability Coefficient for Likert Scale Types", Midwest Research to Practice Conference.
- Gujarati D. N (2004), *Essentials of Econometrics*, 4<sup>th</sup> edition, McGraw Hill
- Humpe A. and Macmillian P. (2007), "Can macroeconomic variables explain long term stock movements?" Centre for Dynamic Macroeconomic Analysis in its Series, CDMA working paper no. 0720, *School of Economics and Finance, University of St. Andrews*.
- Issam and Murinde (1997) *Relationship between exchange rate and stock prices*. Hsing, Y. (2004), "Impacts of Fiscal Policy, Monetary Policy, and Exchange Rate Policy on Real GDP in Brazil: A VAR Model" *Brazilian Electronic Journal of Economics*, 6 (1).
- Kimani D.K & Mutuku C.M. (2013), "Inflation Dynamics on the overall Stock Market performance" *Business Journals*

- Kisaka, S.E, & Mwasaru, A. (2012). “The causal relationship between stock prices and exchange rates in Kenya”, *Research Journal of Finance and Accounting*,
- Jackowicz and Kowalewski (2011), corporate governance and pension fund performance”.
- Mmasi B.S (2013), “An investigation of the relationship between interest rate and inflation in Kenya”, *Unpublished MBA project report University of Nairobi*
- Mutuku N. (2012), “RBA policy briefs 2011/2012” Research & Development Department Retirement Benefits Authority, retrieved from [www.rba.go.ke](http://www.rba.go.ke)
- Mwai A.M (2013), “The relationship between macroeconomic variables and share prices of companies listed at the Nairobi securities exchange”, *Unpublished MBA project report, University of Nairobi.*
- Nai-fu, C., Roll, R., & Stephen A. R. (1986). Economic Forces and the Stock Market, *the Journal of Business*,
- Nguthu F (2009), *Effect of asset allocation on retirement benefit funds.*
- Njau, D.K (2013) “The effect of selected macroeconomic variables on the financial performance of private equity firms in Kenya”, *unpublished MBA report, University of Nairobi*
- Njuguna G (2010), *Strategies to improve pension fund efficiency in Kenya*
- Nyamute M.N (1998), “The relationship between NSE index and Major Macroeconomic Variables”, *unpublished MBA project report, University of Nairobi*
- Ochieng, D.E, & Owiro A.E, (2012) “The relationship between macroeconomic variables and stock market performance in Kenya” *DBA Africa Management Review*
- Olweny, T. and Omondi K. (2011), “The effect of macroeconomic factors on stock return volatility in The Nairobi Stock Exchange, Kenya”, *Business Journal*

- Ombaka, E.N, (2011), “The effect of inflation and money supply on the returns of firms listed at the Nairobi Securities Exchange”, *unpublished MBA report, University of Nairobi*
- Oxera Consulting Ltd (2008), set economic standards, advising government bodies, corporates, lawyers around the world.
- Reilly K. F and Brown C. K (2011), “Investment Analysis and Portfolio Management, 10<sup>th</sup>Edition”, *the Dryden Press, USA*.
- Robert D. G, Jr (2008), “Effect of macroeconomic variables on stock market returns for four emerging economies: Brazil, Russia, India and China” *International Business Economics Research Journal*
- Rono, L. J, Bitok, J.K, and Asamoah, G.N (2010) “Impact of Retirement Benefits Sifunjo J and Mwasaru N (2012 impact of foreign exchange rates and stock prices ACT (RBA) on Investment Returns to Pension Funds in Kenya” *International Business & Economics Research Journal*
- Swiss Institute of Banking and Finance, Rosenbergstrasse.
- Wamagata K. (2011) “The impact of risk management on profitability of the Kenya Power and Lighting Company Staff Retirement Benefits Scheme” Unpublished MBA Thesis, University of Nairobi. Kenya.



pension scheme?					
3. To which extent does Contributions received from members influence financial performance of the pension scheme?					
4. To which extent does fixed income investments proportion and other influence financial performance of the pension scheme?					
5. To which extent does equities investments proportion influence financial performance of the pension scheme?					
6. To which extent does offshore investments proportion influence financial performance of the pension scheme?					
7. To which extent does the pension fund's liquidity influence financial performance of the pension scheme?					

Are there other factors that significantly influence the financial performance of pension fund? \_\_\_\_\_

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