THE EFFECT OF FIRM SIZE ON FINANCIAL PERFORMANCE OF PENSION SCHEMES IN KENYA

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DECLARATION

I, the undersigned, declare that this research project is my original work and that it has not been presented to any other University or Institution for academic purposes. Where other sources of information have been used, they have been acknowledged.

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DEDICATION

I wish to wholly dedicate this project first and foremost to almighty God whose grace, providence and endless care, I cherish.

I also dedicate this project to my family for spiritual, psychological and other forms of support accorded to me that largely contributed to the successful conduct of this study to completion.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CBK	Central Bank of Kenya
EBRI	Employee Benefits Research Institute
GDP	Gross Domestic Product
NSE	Nairobi Stock Exchange
NSSF	National Social Security Fund
OECD	Organization for Economic Co-operation and Development
RBA	Retirement Benefits Authority
RMP	Relative Market Power
UK	United Kingdom

ABSTRACT

Pension funds are the principal sources of retirement income for millions of people in the world. Pension funds are also important contributors to the Gross Domestic Product (GDP) of countries. Funded pension systems have in the recent past gained popularity since they contribute to the economic growth of countries worldwide through direct contribution to the GDP and acting as consumers of financial services. Local studies that have been done include firm efficiency differences, and distribution in the Kenyan manufacturing sector, which used firm size as a study variable. In Kenya, no study has endevoured to determine the effects of firm size on financial performance of pension schemes. This study sought to fill the existing research gap by determining the effects of firm size on financial performance of pension schemes in Kenya, by trying to answer the following question: What are the effects of firm size on financial performance of pension schemes in Kenya? The objective of this study was to determine the effects of firm size on financial performance of pension schemes in Kenya, and intends: to determine the effect of market share; to the assess the effect of the number of employees; to establish the effect of book assets; to establish the effect of the number of branches and to establish the effect of retained earnings on the financial performance of pension schemes in Kenya. The research was conducted through a descriptive research design. The target population for this study was 30 occupational pension schemes in Kenya. The research was carried out using secondary data. The data was collected from annual reports and financial statements. These included aspects from the published annual reports, book value, and equity of institutions to be surveyed. The data collected was analyzed by use of Microsoft Excel 2010 and Statistical Package for Social Sciences (SPSS) Version 20. A multivariate regression model was applied to determine the relative importance of each of the five variables with respect to the role of firm size on performance of pension schemes in Kenya. The study concludes that that there has been significant market volatility as evident from the NSE index, Treasury bill rate movement and offshore indices. The study recommends that RBA should ensure all schemes, particularly those with segregated investments, have up to date investment policies and that the strategic asset allocation is included within the investment policy. It also recommends compulsory saving for all in employment, and the introduction of a flexible scheme for those in the informal sector, who can make periodic payments. It also recommends the undertaking of a comprehensive reform that requires a coordinated strategy and a significant amount of ground work in terms of evaluation of policy and implementation choices that would lead to enactment of enabling legislation, building of institutional capacity and sensitization of approved reform programmes.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Pension funds are the principal sources of retirement income for millions of people in the world. Pension funds are also important contributors to the Gross Domestic Product (GDP) of countries. Funded pension systems have in the recent past gained popularity since they contribute to the economic growth of countries worldwide through direct contribution to the GDP (Watson, 2008; Corbo & Schmidt-Hebbel, 2004), accumulation of savings (Rauh, 2006; Employee Benefits Research Institute (EBRI), 2007), financial market development (Davis, 2005; Yermo, 2008), reducing old-age poverty (Kakwani, Sun & Hinz, 2006) and acting as consumers of financial services (Heijdra, Ligthart & Jency, 2006).

According to Hughes and Stewart (2004), pension funds can be open or closed. An open pension fund supports at least one pension plan with no restriction on membership while closed pension funds support only pension plans that are limited to certain employees. They further sub-classify the closed funds to a single employer - membership restricted to employees of a certain employer, multi-employer - membership can be drawn from two or more employers, related members - membership is reserved to certain related entities and individual pension funds where membership is voluntary.

1.1.1 Firm Size

Pension scheme size can be defined in terms of asset value, number of members and coverage (KRBA, 2010). According to Michira (2013) of the East African Standard, a survey done by Alexander Forbes has shown that size matters when choosing a retirement scheme to join. The Nairobi-based actuarial consultancy firm compared investment returns from different pension schemes, with the bigger ones outperforming the smaller ones. What this means for workers is that a bigger retirement scheme with assets in excess of Sh500 million is more likely to provide a better return, which goes a long way towards guaranteeing a more financially secure retirement. Details of the findings show that retirement schemes classified as large reported a 30.2 per cent return in the 12-month period to March 31 2013, compared to 29.2 per cent reported by small schemes, with an asset base of below Sh250 million, and 28.2 per cent from medium-sized schemes. Bigger schemes enjoy economies of scale — they are able to spread costs across a wider membership base — allowing them to give members a bigger return. The survey also showed that investing in the stock market was the most lucrative asset class, earning retirement schemes an average return of 70.3 per cent, compared to 15.8 per cent earned from investing in fixed income securities. In 2012, retirement schemes earned 52.1 per cent from the stock market in value appreciation (Michira, 2013).

1.1.2 Financial Performance

Financial performance relates an enterprise's earnings to sales, assets, owner's equity and share value. It is the level of performance of a business over a specified period of time, expressed in terms of overall profits or losses during that time (Jacobs, 2001). It refers to the ability of a company to earn income and helps in evaluating the financial performance

of a business and to judge the results of business strategies and activities in monetary terms. Net income, also referred to as profitability, is the single most significant measure of a firm's financial performance (Fening, Pesakovic & Pesi, 2008).

According to Hinz et al. (2010), countries throughout the world are increasingly relying on individual pension savings accounts to provide income replacement in old age for their citizens. Although these have now been in place for several decades, the metrics for the measurement of their performance has not always been meaningful from the perspective of the long term objectives of pension funds. The recent financial crisis has highlighted the need to establish meaningful performance measures that consider pension funds in relation to the ability to effectively provide income replacement at retirement age.

Hinz et al. (2010) observed that a meaningful evaluation of the investment performance of pension funds requires the design of life-cycle benchmarks against which performance can be evaluated. The composition of these benchmarks would depend on a number of factors, including the presence of other sources of retirement income; the age of individuals; the rate of contributions; the target replacement rate; the expected density of contributions; the type of retirement income in the payout phase, and the risk aversion of policymakers and individuals. In evaluating the financial performance of pension funds, Hinz et al. (2010) conclude that there is need for, and application of this new approach to performance measurement and the impact of the recent global financial crisis on the pension funds.

Financial ratios are used as a measure of performance. A ratio is the simplest mathematical expression of two magnitudes which are meaningfully related, and which are expressed in relation to each other as a quotient (Jacobs, 2001). Ratios are generally classified into: Activity ratios which measure how quickly various accounts are converted into money or sales; Liquidity ratios measure an enterprise's ability to pay its short term debts when they are due. It refers to the solvency of the enterprise's total financial position; Debt/leverage ratios measure the extent of debt in relation to total assets; Cash flow ratios measure returns on assets and on equity. They help users assess whether a firm is earning an adequate cash flow return on its net assets and whether stockholders are earning adequate cash flows from their investments; and profitability ratios which use various criteria for measuring profit

Hutchinson, Meric and Meric (2008) measured performance by the following ratios: net profit after tax/sales, earnings before interest and tax/total assets, and net profit after tax/owners' equity. Altman (1968), in a study of financial ratios, discriminant analysis and the prediction of corporate failure, measured performance by two ratios: retained earnings/total assets (RE/TA) and earnings before interest and taxes/total assets (EBIT/TA).

1.1.3 Effect of Firm Size on Performance

A study by Ahire and Dreyfus (2000) suggests that size of a pension scheme is positively related with higher process quality and performance. This is in agreement with Schaefer (1998) in a study that concluded that managers of larger firms in terms of asset value exert higher levels of effort in managing finances, noting that incentive contracting is an

important motivation for managers generating good performance, therefore, it affects a firm's processes as a whole. A study by Hoyt (2012) found that larger firms are more likely to implement financial management concepts than smaller firms. The Kenyan Retirement Benefits Authority categorizes schemes as per value of assets, for the purpose of levy payment based on size of Scheme Fund as indicated in their latest Audited Accounts (Kenya Shillings) as follows: Up to 500 million, More than 500 million but not exceeding 1,000 million, More than 1,000 million but not exceeding 5,000 and More than 5,000 million (KRBA, 2012).

Several arguments favour larger firm sizes in attaining higher performance. Large firms are more likely to exploit economies of scale and enjoy higher negotiation power over their clients and suppliers (Serrasqueiro & Macas-Nunes, 2008). In addition, they face less difficulty in getting access to credit for investment, have broader pools of qualified human capital, and may achieve greater strategic diversification (Yang & Chen, 2009). On the other hand, small firms exhibit certain characteristics which can counterbalance the handicaps attributed to their smallness. They suffer less from the agency problem and are characterized by more flexible non-hierarchical structures, which may be the appropriate organizational forms in changing business environments (Yang & Chen, 2009).

1.1.4 Pension Schemes in Kenya

Pension schemes in Kenya comprise of the civil service scheme, the National Social Security Fund (NSSF), occupational schemes and the individual pension schemes. NSSF is the mandatory scheme for all formal sector employees in Kenya, other than the public

service employees, whose pension plan is financed on a pay-as-you go basis. NSSF is formed by an Act of Parliament enacted in 1965, and is established as a provident fund operating on a defined contribution basis. In 1997, an amendment to the NSSF Act defined the NSSF as a retirement benefits scheme and thus brought it into the control of the Retirement Benfits Authority. All employees are required to register with the NSSF but only employers with five or more employees are required to contribute. Voluntary membership and contribution was introduced in 2006, and NSSF embarked on a marketing campaign to attract voluntary membership particularly from the informal sector. Statutory contributions to NSSF are set at 10% of an employee's pay, half of which is paid by the employer and half by the employee. There is a monetary ceiling on the maximum monthly combined contribution, currently set at Sh.400.

The public service pension scheme covers civil servants, teachers, police and prison staff. Separate arrangements apply for the defence forces. The provision and management of this scheme is governed under the Pensions Act and Regulations. It operates on a defined benefits basis and is non-contributory, other than a 2% from salaries of male employees towards widowa and orphans' benefits. Benefits vest after ten years of service and there is no portability of benefits, and individuals who resign from service before retirement are not entitled to any benefits. The scheme provides a pension of 2.5% of final basic salary for each year of service on retirement from service at fifty-five years. The scheme is funded on a pay-as-you go basis with pension costs met from government revenues.

Occupational schemes are set up by employers for the benefit of their staff. They are voluntary and are established under a trust deed. They are regulated by Retirement Benefits Authority. There are no minimum requirements in relation to the levels of contribution by employers and staff. Legislation restrictions are in relation to minimum retirement ages, vesting, portability, preservation and accessibility to benefits. Individual personal pension plans comprise schemes set up by institutional providers to target individual members not necessarily tied to an employer or any formal setting. The majority of these schemes are offered by insurance companies.

The coverage of these pension schemes is currently estimated at less than 15% of the total labour force. The NSSF has the highest membership proportion at about 67%, or about 800,000 members. The civil service pension scheme follows at about 22% and occupational retirement benefits schemes and individual retirement benefits schemes account for about 11% of total scheme membership in the country. In 1997, the Retirement Benefits Act was enacted and a comprehensive regulatory framework was implemented in the year 2000. The Retirement Benefits Authority (RBA) was established at the same time to regulate, supervise and promote the pension schemes sector in the country (Soft Kenya, 2012).

Pension schemes registered by the Kenyan Retirement Benefits Authority are one thousand three hundred and eight (1,308) consisting of 1,216 occupational pension schemes, 64 individual retirement schemes and 23 operating as interim registered schemes (KRBA, 2013).

1.2 Research Problem

Market forces constantly push firms toward operating at an appropriate scale. Where such forces are absent, firms can destroy value by operating at a non-optimal scale for extended periods of time (Bauer, Martijn & Rik, 2010). Defined benefit pension plans are a perfect example where such inefficiencies might occur. Their scale is driven largely by the size and age of the workforce and by contractual commitments to the workers (Ambachtsheer, 2011). Plan beneficiaries unhappy about performance cannot vote with their feet and move their funds to appropriately scaled plans. Moreover, beneficiaries often have weak incentives to act, as it is unclear whether they will be required to make up for performance losses, or whether losses will be borne by employers or the public more generally (Blake et al. 2010).

According to a study carried out by Sze (2012) on behalf of the World Bank, the latest mortality data shows that Kenya's life expectancy has increased by 5.06 years over the past decade with average life expectancy improving to 57.08 years in 2011 from 52.02 years in 2001 (Sze, 2012). A further increase in life expectancy could impose a huge financial burden on the economy as the government would have to look for more money to cater for pension benefits for its workers. Data from the Retirement Benefits Authority indicates that the country's retirements benefits coverage — the ratio of working population covered by pension schemes — stands at 14 per cent, a poor comparison to the global average of 35 percent (Retirement Benefits Authority, 2012).

Local studies that have been done include firm efficiency differences, and distribution in the Kenyan manufacturing sector, which used firm size as a study variable (Ngui-Muchai & Muchai, 2012). In Kenya, no study has endevoured to determine the effects of firm size on financial performance of pension schemes. This study sought to fill the existing research gap by determining the effects of firm size on financial performance of pension schemes in Kenya, by trying to answer the following question: What are the effects of firm size on financial performance of pension schemes in Kenya?

1.3 Research Objective

To determine the effects of firm size on financial performance of pension schemes in Kenya.

1.4 Value of the Study

The study will be of great importance to the management of pension schemes in Kenya and the rest of the business firms in Kenya who will access this information, since the researcher feels that the study will effectively analyze a very critical area. The benefit to this study will be that pension schemes will get to know the knowledge regarding drivers of performance. Potential investors will benefit from the study whereby they will be equipped with the necessary information relating to how firm size influences performance of pension funds in Kenya. The study will also be of value to future researchers and academicians as it will form a basis for empirical and conceptual research, which would be helpful in refining and validating findings especially when a significant number of experiences is collected and studied.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature related to the role of firm size on performance of pension schemes in Kenya. It is focusing on past studies related to the prevailing phenomenon and related studies.

2.2 Theoretical Review

This will examine what other researchers and scholars have done. It covers the theories, the determinants of financial performance of pension schemes, the empirical review and a summary of the literature.

2.2.1 Modern Portfolio Theory

Markowitz (1952) has developed a theory, which is nowadays known as "modern portfolio theory". Portfolio theory allows investors to make an estimate of the expected risks and returns for their portfolio. Markowitz came up with the efficient diversification of portfolios by combining assets to reduce the portfolio risk and to improve the rate of return. There are two types of portfolio strategies, and can be summarized as (i) Passive portfolio strategy - relies on diversification. This strategy assumes that the market will reflect all available information in the price paid for securities; and (ii) Active portfolio strategy - this strategy uses all available information and forecasting techniques to obtain a better performance for the portfolio (McGill, Brown, Haley & Schieber, 2005).

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2.2.2 Modigliani and Miller Propositions

The modern theory was developed by Modigliani and Miller (1958). This theory says that a firm's proportion of debt and equity does not matter. With corporate taxes, the firm with the greater proportion of debt is more valuable because of the interest tax shield. Modigliani and Miller (1963) developed their theorem further because there is no such an economy with the perfect capital market. This says that as the proportion of debt in the firm's structure increases, its return on equity increases in a linear fashion. In the economy with the transaction costs and taxes, capital structure composition is a significant matter. In most of the countries, taxes are deductible; hence the value of the levered firm exceeds the value of the un-levered firm. The effect of leverage generates the tax shield with the same value of the deductible interest of the debt. The conclusion is that if a firm wants to maximize its value then it should be financed by debt only. Therefore, the propositions were extended to contain tax shield, which affect the market capitalization and the expected return on equity.

2.2.3 The Market Power Theory

The debate about the importance of market share rather than concentration as a criterion of market power virtually started with Shepherd (1972) leading Rhoades (1997) to coin the phrase "relative market power." Shepherd laid out the pro and con arguments relating higher market shares with profitability by invoking the neoclassical expectation that a higher market share results in a higher profitability on one hand, and by invoking the Cournot model, which gives a zero relationship, on the other hand. Shepherd employed a regression model with market share, leading-firm group (size), advertising intensity, and growth as variables to explain profitability

From the industrial economics theory of market power - or monopolisation theory, one can conclude that market power would enable a company to make higher profits as they are able to charge a premium for their products.

The Relative Market Power (RMP) theory is empirically proved when concentration introduced in the explanatory equations of performance is found non-significant in contrast to market share which should be positively and significantly correlated with price and/or profitability (Beck, 2006). Market share and performance can be explained as market power advantages. A pension scheme with a strong position in the market may either reinforce its domination over the market or achieve a higher efficiency (Tregenna, 2009). An increase in market power comes with a deterioration of efficiency which makes firms unable of earning higher profitability (Clarke, Cull, Martinez & Sanchéz, 2003).

2.2.4 Static Trade-off Theory

According to the trade off theory by Kraus and Litzenberger (1973), at the point of optimal balance between the cost and the benefit of debt finance, a firm should stop increasing the debt/equity ratio. At the optimal debt/equity ratio the firm market value should be maximized and the cost of capital should be as low as possible (Kraus & Litzenberger, 1973). As mentioned before, the cost of debt is the cost of financial distress and bankruptcy. Therefore, the expected cost of financial distress in future is the cost, if financial distress happens multiplied by its probability.

The financial distress cost differs among different industries, depending on the assets the firm owns, the volatility of asset value and cash flow. One of the advantages of this

theory is about costs, which are 'fiscally deductible' from the company's tax as a result of paying interests (Modigliani & Miller, 1963; DeAngelo & Masulis, 1980); the other advantage is lessening of the free cash flow problem (Jensen & Meckling 1976; Stulz, 1990). The disadvantage of debt contains the potential costs as a result of financial distress (Kim & Sorensen, 2006), and the agency costs occurring between the financial creditor and the company's owner (Jensen & Meckling, 1976).

2.2.5 The Pecking Order Theory

The pecking order theory, suggested by Myers (1984) and Myers and Majluf (1984), is based on information asymmetry and can be seen as a model of financial hierarchy (Brounen, de Jong and Koedijk, 2006). Inside managers often have more information about the organization than the outside investors. Since the information is asymmetric, there are costs if additional funds is needed. Investors consider that debt is less risky than equity (Bhaird and Lucey, 2010). The pecking order theory suggests that organization prefer to use internal funds first. This means that the organization will first use their retained earnings to finance.

Shyam-Sunder and Myers (1999) tested the pecking order hypothesis and found evidence that indeed organization follow the pecking order theory. De Jong, Verbeek and Verwijmeren (2011) found also evidence that the way organizations choose their capital structure is in line with the pecking order theory. De Haan and Hinloopen (2003) investigated the financing behavior of Dutch firms and found that the preferences of financing is in line with the stated financing hierarchy. Brounen, de Jong and Koedijk (2006) found that the pecking order theory is present in European countries.

2.3 Determinants of Financial Performance of Pension Schemes

This section reviews the empirical foundation of the prevailing phenomenon by different authors on the firm size variables used in the study to determine their effect on performance of pension schemes.

2.3.1 Firm Size

Novy-Marx and Rauh (2010) found that potential existence of scale-related inefficiencies in pension plans is a significant issue. The assets in defined benefit plans are substantial on their own, accounting for $14 trillion globally (Watson, 2008). In the US for example, these plans control $5.4 trillion or 65% of total pension assets tied to employers, and in many other countries they are the sole source for pension payments. Poor asset management of pension plans has immediate social consequences, reducing the welfare of beneficiaries, organizations, or society more generally, depending on which group bears the costs of inefficient management (Novy-Marx & Rauh, 2010).

2.3.2 Market Share

The relationship between market share and profitability or performance has been the subject of academic research for so many years, yet it remains a generalization which has been over-extended and accepted without acknowledgement of all its attributes. Hergert (2004) used return on assets and regressed against market share on nearly 5,400 businesses and 76 industries. In examining individual firms he found a weak and somewhat nonlinear relationship between market share and profitability. He concluded that the higher the market share, the more profitable the company, however, he also

conceded that those relationships occurs up to a point after which the relationship cease to exist.

As Woo (2006) noted, the close association between market share and profitability is, by now, strongly acknowledged by many managers and management scholars as a basic premise of business strategy. She also found that market share does not always translate into profitability, as evidenced by a sizable 41 market leaders all earning a pre-tax return on investment of less than 10%. Buzzel, Gale and Sultan, (2005) say that market share determines return on investments and therefore an increase in market share will result in increase in profitability. They suggest that market share and increases in market share growth will not be predictors of profitability in the model which takes into account the existence of "shock".

2.3.3 Number of Employees

Guest et al. (2003), in their study on human resource management and corporate performance in the UK agreed that the number of staff involved in the daily running of an organization in a high performance system includes rigorous recruitment and selection procedures, incentive compensation systems, training and development activities, employee participation, flexible work arrangements and job security that organizations can achieve 'high performance' through the use of practices which can leverage employee's abilities and commitment. Another controversial issue in the number of employees concerns the linkage to performance. There are several trends about how the number of employees connects to organizational performance. They concluded that there exists a direct positive relationship between the number of employees and firm performance.

2.3.4 Book Assets

McGill et al. (2005) found that the money for pension funds is invested in tangible and intangible assets. Portfolio management can be described very simply as: when pension funds make investment decisions, they have to take into account the selection of asset, the selection of securities and the right market timing. Most pension funds must have an investment policy; this is a policy on how to make sound investments to guarantee continuity to ensure payments to pensioners. The pension benefits are a liability towards pensioners during their remaining life. Pension funds have investments in common stocks; intermediate and long- term debt instruments; money market instruments; real estate; leased property; options and futures; and foreign securities, with maturities varying from short term, midterm to long term. Results of investment are presented in such a way that allows the stakeholders to make comparisons.

2.3.5 Number of Branches

Hirtle and Metli (2004) observed that after controlling a variety of institution-specific and market-specific factors, banking organizations with mid-sized branch networks – those containing 101 to 500 branches – had lower deposits per branch and roughly equal volumes per branch relative to banks with larger branch networks.

Whatever differences in these branch-related performance measures, however, there is no systematic relationship between branch network size and overall firm performance. Thus, recent technological developments seem not to have altered the basic relationship between branch network size and performance. Overall, these findings are consistent with

recent trends in branch activity suggesting that organizations with mid-sized branch networks may face pressure to increase branch network size.

2.3.6 Retained Earnings

Retained earnings are a firm's cumulative earnings since it was formed minus the dividends it has declared since it began. In other words, retained earnings represent the firm's cumulative earnings that have not been distributed to its owners. The amount of retained earnings as of a balance sheet's date is reported as a separate line item in the stockholders' equity section of the balance sheet. A negative amount of retained earnings is reported as deficit or accumulated deficit. According to Altman (1968), retained earnings to total asset ratio is the measure of cumulative performance over time and the age of a firm is implicitly considered in this ratio.

2.4 Empirical Review

This section deals with previous studies that relate with this study's variables. The study will review literature that empirically examines the effects of firm size on financial performance.

2.4.1 International Evidence

In evaluation of the effectiveness of portfolio management for private pension funds in Suriname (South America) on five (5) private pension funds and from the financial statements of six (6) private pension funds, Badulkhan (2011) did a financial analysis of portfolio over the period 2005 – 2009 and observed that the crisis in the world, the fall of equity markets and interest rates, are important facts, that pension funds have suffered huge losses. The analysis shows that the current account with the employer is huge and is

increasing each year despite an arrangement for repayment. The OECD also estimated a decline in assets of pension funds of USD 5.4 trillion at the end of 2008. This decline has an impact of around 20-25% on average to finance payment of pensioners. The nominal return (growth rate of money) of selected OECD and non-OECD countries varied in 2008 between -35% to +11%. The study also found that the governing boards of pension funds are more focused on a trade of between risk and return of individual investment opportunities rather than the retirement objectives of the pension funds. The analysis shows that the current account with the employer is huge and is increasing each year despite an arrangement for repayment (OECD, 2008).

In a study done in Boston – USA on trying to find out how much size erodes mutual fund performance, Reuter and Zitzewitz (2010) employed a regression discontinuity approach and found that market forces constantly push firms toward operating at an appropriate scale. Where such forces are absent, firms can destroy value by operating at a non-optimal scale for extended periods of time. Defined benefit pension plans are a perfect example where such inefficiencies might occur. Their scale is driven largely by the size and age of the workforce and by contractual commitments to the workers. Moreover, beneficiaries often have weak incentives to act, as it is unclear whether they will be required to make up for performance losses, or whether losses will be borne by employers or the public more generally (Reuter and Zitzewitz, 2010).

To explore the relationship between pension plan size and performance, data from an international sample of pension plans from 1990 to 2008 provided by CEM Benchmarking, Inc. (CEM), a Toronto-based global benchmarking firm was used. The data was based on survey responses of 842 distinct pension plans with 5008 plan-year

observations. The data was well suited to explore questions of the relationship between size and performance as it has data not only on gross returns, but also on sub-asset class specific costs and benchmarks. The study found that pension plans are operating in a region where there are positive economies to scale: Larger plan size is associated with better performance of the entire pension plan portfolio. The effect is economically sizeable: Returns on the largest plans are higher by 43-50 basis points per year. The study also found that plans react to changes in size by exploiting their freedom of action by using more internal management options and by shifting resources to where larger plans have a comparative advantage alternatives, particularly private equity and real estate (Goyal & Wahal, 2008).

Ambachtsheer, Capelle & Scheibelhut (1998) investigated 80 US and Canadian pension plans for the period 1993-1996 and found that large plan size is an important driver for good pension performance, measured by risk-adjusted net value added by asset mix decision and implementation. Reasons are that large size brings economy of scale in operating cost and enables plans to support a full-time professional management team. Huang (2010) tested whether pension plan size is relevant for explaining the different performance across Dutch pension plans by performing a regression of the time-average z-score on the plan's size. Size alone explains almost 28% of the variation in a plan's average z-score. The larger plans have a higher average z-score than the smaller plans. This finding says that asset managers selected by the larger plans can implement the investment better than those selected by the smaller plans (Huang, 2010).

In Canada, Dyck and Pomorski (2011) found that for defined-benefit pension funds, funds react to changes in size by shifting towards asset classes for which scale and

negotiating power matters and in particular, by increasing their allocations to alternative investments such as private equity and real estate. They find this shift in allocation is associated with large positive economies of scale both in costs and in gross returns. Larger funds are likely to be able to negotiate more favourable fee schedules when investing in these asset classes. There may also be economies of scale in gross returns if larger funds are able to retain more skilful managers or can negotiate better contractual protections.

In Sub-Saharan Africa, a study was conducted on Social Security reform issues in Africa, based on the examination of a number of case studies for both Francophone and Anglophone Africa by OECD. Improving administrative performance is a challenge that has been difficult to meet. Reducing costs, better service, and good record keeping is at the core of providing better services and eliminating the opportunities for corrupt behavior. But this is easier said than done. Worldwide experience shows that efforts to improve information management have to be accompanied by changes in the way institutions are organized to be effective. Thus, improving administrative performance will have to be part and parcel of the efforts to improve governance. Institutions with fewer and clearer objectives are in a better position to improve their performance and deliver better services. Issues like pension portability will become more important as labor mobility increases (OECD, 2008).

2.4.2 Local Evidence

Pension funds are the principal sources of retirement income for millions of people in the world (Sze, 2008). Retirement income accounts for 68% of the total income of retirees in Kenya, while pension assets account for 30% of Kenya's GDP (Kakwani et al. 2006). It

is therefore important that pension funds be managed effectively, not only in Kenya, but also in other countries (Nyakundi, 2009). Kenya's GDP is about 35 billion USD and the pension assets as at the end of year 2011 was about 5.9 billion USD, a 17% ratio to GDP (Republic of Kenya, 2012).

Omondi (2008), in a report on the value of pension assets, observed that, pension funds invested a sum of Ksh. 223 billion in the Kenyan financial sector in 2007 of which Ksh. 77 billion (22% of the outstanding domestic debt) was invested in government securities. The National Social Security Fund (NSSF) estimates show that at least 40% of Kenyan employers are not remitting workers' contributions, denying workers Ksh400 million ($4.7 million) every month or Ksh4.8 billion ($56.5 million) annually in retirement savings. Kenyans, on average, are living longer and the ranks of the elderly poor are rising faster than ever before.

2.5 Summary of Literature Review

In addressing the research variables, the study has employed various theories in support of the objectives of the study. The modern portfolio theory allows investors to make an estimate of the expected risks and returns for their portfolio through efficient diversification of portfolios by combining assets to reduce the portfolio risk and to improve the rate of return. The study has also utilized the relative market power (RMP) theory where the market share and performance can be explained as market power advantages. In addressing the book asset variable, the study has used the static trade off

theory to explain that at the point of optimal balance between the cost and the benefit of debt finance, a firm should stop increasing the debt/equity ratio.

In addressing the market share variable, Hergert (2004) used return on assets and regressed against market share on nearly 5,400 businesses and 76 industries and found a weak and somewhat nonlinear relationship between market share and profitability. This study no matter how relevant its findings are to the current study, it was conducted almost a decade ago and a more recent perspective is of essence.

On the number of employees, Guest, Michie, Conway and Sheehan (2003), in their study on human resource management and corporate performance in the UK found that there exists a direct positive relationship between the number of employees and firm performance. This study has greatly enriched the current study in guiding the researcher on what to expect. However, the study was done in a developed economy and a similar perspective from a developing nation is of paramount importance.

Hirtle and Metli (2004) in a study on banking organizations with mid-sized branch networks found that there is no systematic relationship between branch network size and overall firm performance. However, their study was focused on banking institutions while the current study is concentrating on pension schemes.

According to Altman (1968), in a study of 66 corporations, it was found that a relatively young firm, will probably show a low retained earnings to total assets ratio because it has not had time to build up its cumulative profits. Earnings before interest and tax to total assets ratio is calculated by dividing the total assets of a firm into its earnings before

interest and tax reductions. In essence, it is a measure of the true productivity of the firm's assets, abstracting from any tax or leverage factors.

From the literature, most of the studies available on financial performance of pension schemes are from the developed countries. Difficulties occur in generalizing from the previous research. First, most previous research has focused on large firms exclusively. Second, strategic group studies, while viewing a broad spectrum of firm sizes, have focused on strategic variables such as growth rate and gross assets, rather than firm size as a determinant of performance. Third, a more recent perspective on the prevailing phenomenon in Kenya is of essence since it can be generalized to other developing nations. Different studies have used different methodologies to carry out their research, and therefore this calls for research to be done in developing economies like Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was used to carry out this study. The chapter presents the research design, data collection method and instruments and data analysis.

3.2 Research Design

The research was conducted through a descriptive research design. This type of research describes what exists and may help to uncover new facts and meaning. The purpose of descriptive research is to observe, describe and document aspects of a situation as it naturally occurs (Polit & Hungler, 1999).

Descriptive research studies are a form of qualitative research, and can help discover new meaning and to provide new knowledge when there is very little known about a topic (Dempsey & Dempsey, 2000). The purpose of a descriptive research project is to provide a picture of situations as they naturally happen (Burns & Grove, 1993). Although no description is free of interpretation, basic or fundamental qualitative description entails a kind of interpretation that is low-inference, and the description in qualitative descriptive studies entails the presentation of the facts of the case in everyday language (Sandelowski, 2000). One of the unique components of qualitative research is the small number of participants in the study. However, while the number of participants may be fewer than is found in quantitative studies, the depth of questioning and the richness of

the data that qualitative research uncovers cannot compare to quantitative research (Sandelowski, 2000).

3.3 Target Population

According to Mugenda and Mugenda (1999), a population is defined as a set of people, services, elements and events, group of things or households that are being investigated. The target population for this study was 30 occupational pension schemes in Kenya (see Appendix 1). This study undertook a census on the target population in order to determine the effect of firm size on financial performance of pension schemes in Kenya.

3.4 Data Collection

The research was carried out using secondary data. The data was collected from annual reports and financial statements. These included aspects from the published annual reports, book value, and equity of institutions to be surveyed. The annual reports of the firms were obtained from 2009 to 2013 which was the study period.

3.5 Data Analysis

The data collected was analyzed by use of Microsoft Excel 2010 and Statistical Package for Social Sciences (SPSS) Version 20. Microsoft Excel assisted in grouping the data to facilitate comparison. The data was converted into percentages so as to lie between 0 and 1. Regression analysis was used to determine the relationship between the study variables and performance of pension schemes to find out whether the independent variables predicted a given movement in the dependent variable. The analysis was at 0.05 level of significance.

3.5.1 Analytical Model

A multivariate regression model was applied to determine the relative importance of each of the four variables with respect to the role of firm size on performance of pension schemes in Kenya. The general form of the model is:

$$\text{NOP}it = \beta 0 + n\Sigma\beta i.\ln Xit + \varepsilon \text{ ……………………………………….Eq (i)}$$

NOPit: Net Operating Profitability of firm i at time t; i =1,2,…… n firms

$\beta 0$:   The intercept of equation

βi: :   Coefficients of lnXit variables

lnXit: The natural logarithms of the different independent variables for size of firm i at time t

t: Time = 1, 2,……,5 years.

ε: The error term

Specifically, when we convert the above general least squares model into our Multiple Regression it becomes:

$$\ln(\text{NOP}it)=\beta 0+\beta 1.\ln(MSit)+\beta 2.\ln(NoEit)+\beta 3.\ln(BAit)+\beta 4.\ln(NoBit)+\beta 5.\ln(REit)+\varepsilon……. \text{Eq (ii)}$$

NOP: Net Operating Profitability

MS: Market Share

NoE: Number of Employees'

BA: Book Assets

NoB: Number of Branches

RE: Retained Earnings

ε: The error term.

This study used a model from Graham and Harvey (2001) that did a similar study.

3.5.2 Test of Significance

3.5.2.1 T-test

Comparative statistics test for differences between groups by making use of analysis of variance. Basic difference questions involve one independent and one dependent variable and use t-tests of one-way analysis of variance (ANOVA). The t-test is appropriate when one has an independent variable and wishes to test the difference between the means of the various independent variables. In this study, pension size t-test will be used to compare the mean scores for the dependent variables between two categories within four different dependent variables.

3.5.2.2 F-Test

ANOVA is used to uncover the main and interaction effects of categorical independent variables on an interval dependent variable and is used when there is a single interval dependent and one independent variable with three or more categories. The key statistic in ANOVA is the F-test of difference of group means, testing if the means of the groups formed by values of the independent variable are different enough not to have occurred by chance. If the group means do not differ significantly, then one can infer that the independent variable(s) did not have an effect on the dependent variable. ANOVA assumes that the dependent variable is an approximate interval scale, normally distributed in the population, and the variances of the groups are equal. In this study, one-way ANOVA was used to determine the relationship between firm size and financial performance of pension schemes.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section presents analysis and findings of the study as set out in the research methodology. The study's findings are presented to determine the effects of firm size on financial performance of pension schemes in Kenya.

4.2 Descriptive Statistics from Secondary Data

The research was carried out using secondary data. The data was collected from annual reports and financial statements. These included aspects from the published annual reports, and equity of institutions to be surveyed. The annual reports of the firms were obtained from 2009 to 2013, which is the study period. To achieve the objectives of the study, various data analysis techniques were used. Firstly, financial efficiency scores of the pension funds were obtained. Secondly, the instruments used to measure the latent variables were assessed for reliability and validity. Thirdly, data analysis technique was used to test the hypothesized relationships among the variables in the final sample, by way of analyses of variance (ANOVA).

SPSS software program was used to conduct the analysis. This analysis entails the use of statistical principles to calculate efficiency scores that range from 0% to 100%. This calculation was done for each year starting from 2009 to 2013. The asymptotic properties of the DEA (Data Envelopment Analysis) efficiency estimator were used by Banker (1993) to construct statistical tests enabling a comparison of two or more groups, to

assess whether one group is more efficient than the other. The average of the five years was then calculated for each pension fund, which was regarded as each pension fund's score.

Table 4.1 summarizes the efficiency scores for the 30 occupational pension schemes in Kenya. The table depicts the minimum efficiency score of 60% and the maximum 100%. The pension funds whose scores were 100% were the best performers, and whose practices should be copied by those with lower efficiencies.

Table 4. 1: Efficiency scores

SCORES %	Average	Number of Schemes	%
60 – 69	64.5	5	16.67
70 – 79	74.5	6	20
80 – 89	80.5	8	28.17
90 – 99	90.5	9	30
100	100	2	6.67
Total		**30**	**100**

Source: Research Findings

Figure 4.1 shows that the minimum efficiency score was 60% and the maximum was 100% with a mean score of 82% and a standard deviation of 13.8%.

Figure 4. 1: Efficiency scores
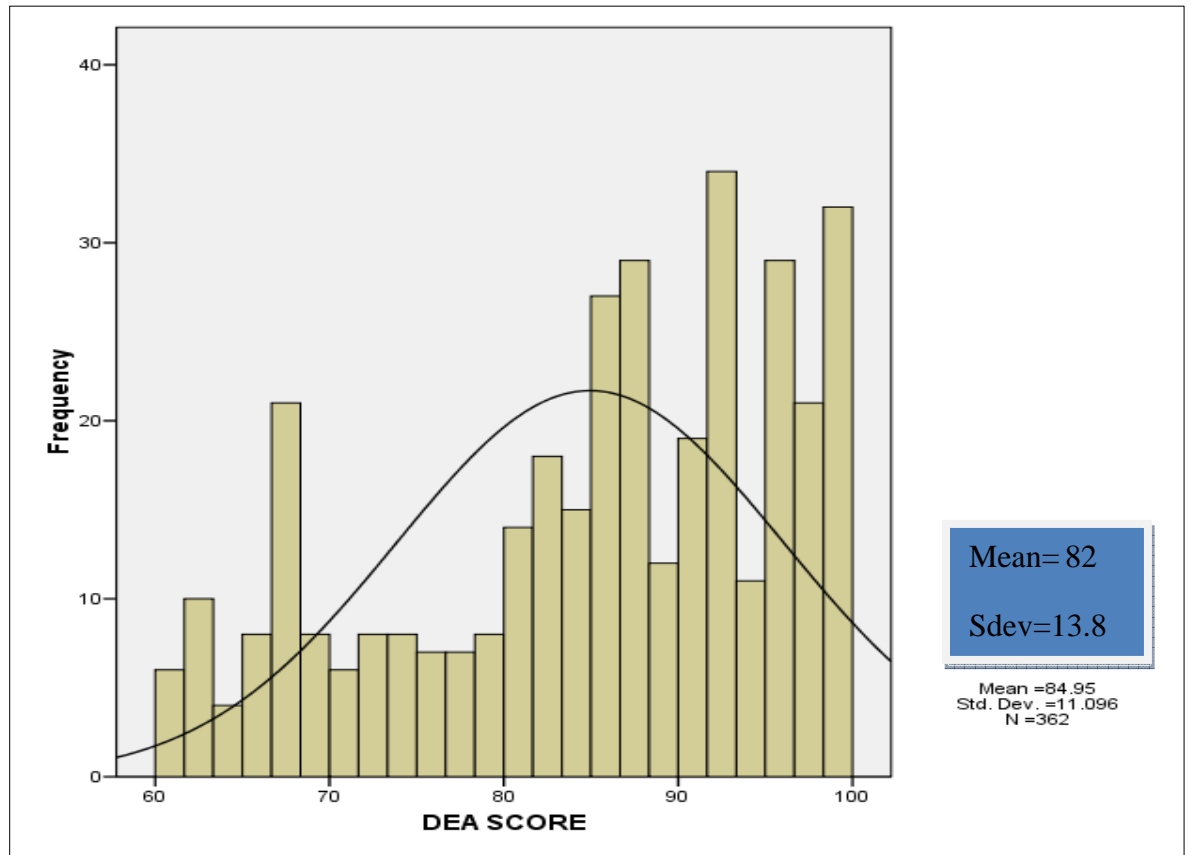
Source: Research Findings

4.3 Study Variables

This section deals with the effects of the various variables on the financial performance of pension schemes in Kenya.

4.3.1 Market share

Market share can be indirectly measured through the average rate of return. Methods for calculating the average investment returns (IRR) of pension funds vary greatly from country to country, hindering international comparability of these statistics. With a view to increasing data comparability across countries, the OECD has decided that it would be

worth applying the same calculation method for IRR across countries, which would be calculated by the OECD, using variables already collected as part of the Global Pension Statistics' framework. In order to reach a consensus on the most appropriate formula for the IRR calculation, an electronic discussion group has been created, composed of selected country experts. Drawing on preliminary consultations, the OECD Secretariat proposed five formulas to the electronic discussion group for comments. A consensus has been reached within the group and subsequently endorsed by the OECD Task Force on Pension Statistics on the following formula for the average IRR, in each year N:

$$\text{Calculated Average IRR} = \frac{(\text{Net Investment Income})_N * 100}{1/2(\text{Total Investment})_{N-1} + (\text{Total Investment}_N)}$$

Net investment income comprises income from investments, value re-adjustments on investments and income from realized and unrealized capital gains and losses. It includes rents receivable, interest income, dividends and realized and unrealized capital gains, before tax and after investment expenses.

From the findings, as shown in Appendix II, the rates of return are seen to be increasing as the years progress, implying that the insurance firms continues to do more investment hence more returns.

4.3.2 Book Assets

The study sought to find out the relationship between the book assets and the financial performance of pension schemes in Kenya. The value of the book assets was 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 as shown below. According to Asebedo and Grable (2004), investment diversification leads to

average performance but minimises losses during periods of poor stock market performance. Through proper investment strategy, risk is avoided and timing is enhanced (Hebb 2006).

Table 4. 2: Book Assets of Pension Schemes in Kenya

Year	Book asset
2009	298,433,371,026
2010	410,286,257,106
2011	326,780,344,077
2012	321,750,123,973
2013	327,790,385,094

Source: Research Findings

4.3.3 Number of Branches

From the findings, 19.9% below 10, 26.2% of the pension had between 10-14 branches, 22.7% between 15-19, 16% between 20-29, and 11.3% between 30-39 while 3.9% had above 40 branches.

Table 4. 3. Number of Branches

Percentage	No of branches
19.9	Between 1-9
26.2	Between 10-14
22.7	Between 15 - 19
16.0	Between 20-29
11.3	Between 30-39
3.9	Above 40

Source: Research Findings

Hirtle and Metli (2004) observed that after controlling a variety of institution-specific and market-specific factors, banking organizations with mid-sized branch networks – those

containing 101 to 500 branches – had lower deposits per branch and roughly equal volumes per branch relative to banks with larger branch networks

4.3.4 Retained Earnings

The study sought to establish the effect of retained earnings on the financial performance of pension schemes in Kenya. Single linear multiple regressions was used to show the relationship between retained earnings on the financial performance of pension schemes.

The linear regression analysis models the relationship between the dependent variable which is performance of pension schemes and independent variable which is retained earnings. The coefficient of determination (R^2) and correlation coefficient (R) shows the degree of association between retained earnings and performance of pension schemes in Kenya From the linear regression model it is shown that $R^2=0.927$ and R= 0.858. This is an indication that there is a strong linear relationship between retained earnings and performance of pension schemes in Kenya.

Table 4. 4:Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.927[a]	.858	.858	.84843

a. Predictors: (Constant), retained earnings

Source: Research Findings

ANOVA test was also done and showed that that retained earnings has significant effect on performance of pension schemes in Kenya since the P value is actual .000 which is less than 5% level of significance. This is depicted by linear regression model Y=B0+B1X1+E where X1 is the retained earnings. The P

value was .000 implying that the model

$Y=B_0+B_1X_{1+}E$ was significant.

Table 4. 5: ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	707.486	1	707.486	982.856	.000[b]
	Residual	116.612	162	.720		
	Total	824.098	163			
a. Dependent Variable: performance						
b. Predictors: (Constant), retained earnings						

Source: Research Findings

Table 4.7 indicates there was positive gradient which reveals that an increase

in retained earnings lead to increased performance as show linearly by the linear

model $Y=.026+.375X_1$

Where X_1 is the retained earnings

Table 4. 6 :Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.026	.271		-.095	.924
	retained earnings	.375	.012	.927	31.351	.000
a. Dependent Variable: performance						

Source: Research Findings

4.3.5 Number of Employees

This figure presents the relationship between the overall number of employees and

net abnormal plan returns, with number ranging from the 0 to 25. The graph shows

as the number of employees increases, performance of pension schemes also increases.

Figure 4. 2: Effect of the Number of Employees

Returns

Number of Employees
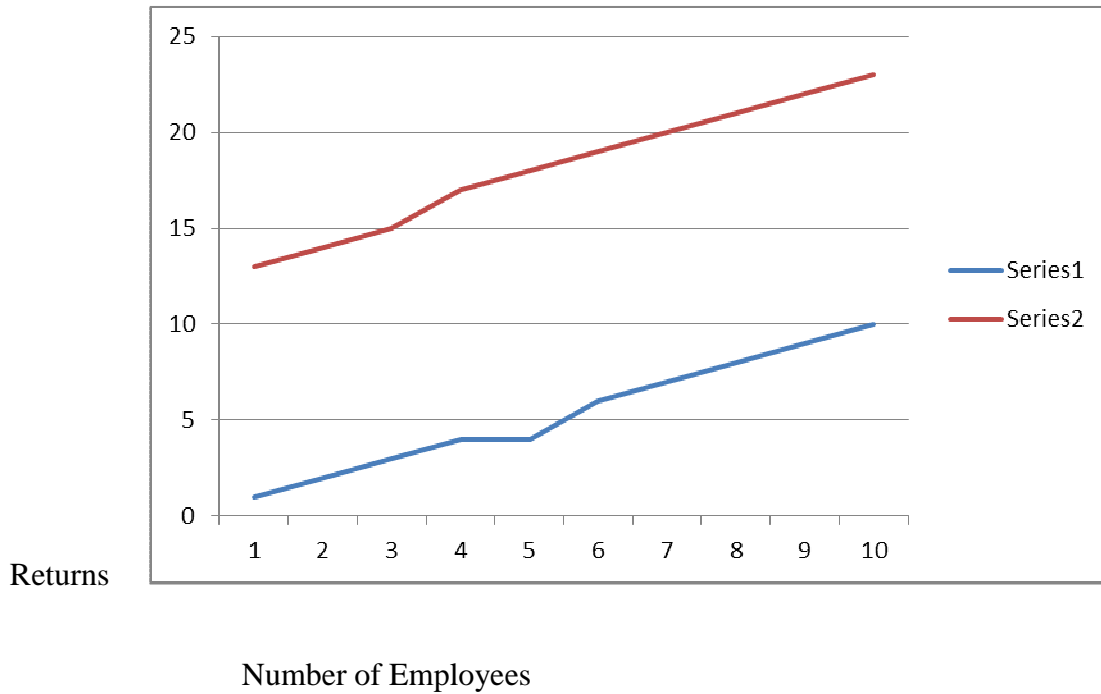
Source: Research Findings

4.4 Multiple Regression Analysis

This section presents a discussion of the results of inferential statistics. The researcher conducted a multiple regression analysis so as to determine the relative importance of each of the variables with respect to determine the effects of firm size on financial performance of pension schemes in Kenya. The researcher used the statistical package SPSS and Microsoft Excel, to enter and compute the measurements of the multiple regressions for the study.

Findings are presented in the following tables:

Table 4. 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.974[a]	0.948	0.947	0.51866

Source: Research Findings

a. Predictors: (Constant), Market Share, Number of Employees, Book Assets, Number of Branches, Retained Earnings

b. Dependent Variable: Performance of pension schemes

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable, performance of pension schemes, that is explained by all the five independent variables (Market Share, Number of Employees, Book Assets, Number of Branches, and Retained Earnings.)

The five independent variables that were studied, explain 94.8% of variance in pension fund performance as represented by the R^2. This therefore means that other factors not studied in this research contribute 5.2% of variance in the dependent variable. Therefore, further research should be conducted to determine the effects of firm size on financial performance of pension schemes in Kenya**.**

Table 4. 8: ANOVA (Analysis of Variance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	781.326	4	195.331	45.69	.000[b]
	Residual	42.772	26	0.269		
	Total	824.098	29			

Source: Research Findings

a. Predictors: (Constant), Market Share, Number of Employees, Book Assets, Number of Branches, Retained Earnings

b. Dependent Variable: Performance of pension schemes

The F critical at 5% level of significance was 5.21. Since F calculated is greater than the F critical (value =45.69), this shows that the overall model was significant. The significance is less than 0.05, thus indicating that the predictor variables, explain the variation in the dependent variable which is performance of pension schemes. If the significance value of F was larger than 0.05, then the independent variables would not explain the variation in the dependent variable.

Table 4.9: Regression Analysis for the year (2009)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.448	0.171		2.62	0.01
	Retained Earnings	0.089	0.02	0.219	4.549	0
	Number of Employees	0.026	0.012	0.094	2.109	0.037
	Book Assets	0.178	0.019	0.461	9.249	0
	Market Share	0.08	0.018	0.239	4.382	0
	Number of Branches	0.072	0.013	0.023	3.45	0

Source: Research Findings

a. Predictors: (Constant), Market Share, Number of Employees, Book Assets, Number of Branches, Retained Earnings

b. Dependent Variable: Performance of pension schemes

From the regression findings, the substitution of the equation (NOPit = $\beta0$ + $n\Sigma\beta i.$ln Xit + ε)

NOPit: Net Operating Profitability of firm i at time t; i =1,2,…… n firms

$\beta0$:   The intercept of equation

βi: :   Coefficients of lnXit variables

lnXit: The natural logarithms of the different independent variables for size of firm i at time t

t: Time = 1, 2,……,5 years.

ε: The error term

becomes:

$$Y = .448 + .089 \ln X_1 + .026 \ln X_2 + .178 \ln X_3 + .080 \ln X_4 + .072 \ln X_5$$

Where Y is the dependent variable (Performance of pension schemes) X_1 is Retained Earnings variable, X_2 is Number of Employees, X_3 is Book Assets, X_4 is the Market Share and X_5 is the Number of Branches.

According to the equation, taking all factors (Market Share, Number of Employees, Book Assets, Number of Branches and Retained Earnings) constant at zero, Performance of pension schemes will be 0.448. The data findings also show that a unit increase in Retained Earnings will lead to a 0.089 increase in performance; a unit increase in Number of Employees will lead to 0.026 increase in performance; a unit increase in Book Assets will lead to a 0.178 increase in performance, a unit increase in Market Share will lead to a 0.080 increase in performance and a unit increase in Number of Branches will lead to a 0.072 increase in Performance of pension schemes.

From the results, Book Assets as a component of Performance of pension schemes contributes most to the Performance of pension schemes, which has the greatest t value of 9.249, while Number of Employees contributes the least which has the smallest t value of 2.109.

The above findings are backed up by those of McGill et al. (2005) who argues that pension funds have investments in common stocks; intermediate and long- term debt instruments; money market instruments; real estate; leased property; options and futures; and foreign securities, with maturities varying from short term, midterm to long term which in turn affect their performance.

Table 4. 10: Regression Analysis (2010)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.953	.231		8.440	.000
	Retained Earnings	1.062	.029	.198	2.169	.032
	Number of Employees	1.049	.052	.080	.948	.345
	Book Assets	1.006	.051	.011	.115	.909
	Market Share	1.028	.042	.055	.674	.502
	Number of Branches	1.007	.045	.001	.543	

Coefficients[a]

a. Dependent Variable: Performance of pension schemes

Source: Research Findings

According to the equation ($NOP_{it} = \beta_0 + n\Sigma\beta_i.\ln X_{it} + \varepsilon$), taking all factors (Market Share, Number of Employees, Book Assets, Number of Branches and Retained Earnings) constant at zero, Performance of pension schemes will be 1.953. The data findings also show that a unit increase in Retained Earnings will lead to a 1.062 increase in Performance of pension schemes; a unit increase in Number of Employees will lead to 1.049 increase in Performance of pension schemes.; a unit increase in Book Assets will lead to a 1.006 increase Performance of pension schemes, a unit increase in Market Share will lead to a 1.028 increase in Performance of pension schemes; and a unit increase in number of branches leads to 1.007 increase in Performance of pension schemes.

From the results, Retained Earnings as a component of performance of pension schemes contributes most to the performance of pension schemes, which has the greatest t value of 2.169, while Book Assets contributes the least which has the smallest t value of 0.115.

The study collaborates with the findings of Fening et. al (2008) on their study on the relationship between quality management practices and the performance of small and medium size enterprises who argues that retained earnings as a measure of performance in pension schemes has a positive relationship with the performance.

Table 4. 11: Regression Analysis (2011)

	Coefficients[a]					
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.427	.455		3.134	.002
	Retained Earnings	.260	.080	.388	2.996	.000
	Number of Employees	.413	.087	.252	5.185	.003
	Book Assets	.033	.097	.029	.338	.004
	Market Share	.006	.079	.006	.077	.001
	Number of branches	0.003	.063	.005	.005	.000
a. Dependent Variable: Performance of pension schemes						

Source: Research Findings

According to the equation (NOP$it = \beta 0 + n\Sigma\beta i.\ln Xit + \varepsilon$), taking all factors (Market Share, Number of Employees, Book Assets, Number of Branches and Retained Earnings) constant at zero, Performance of pension schemes will be 1.427. The data findings also show that a unit increase in Retained Earnings skills variable will lead to a 0.260 increase in performance of pension schemes; a unit increase in Number of Employees will lead to 0.413 increase in Performance of pension schemes and a unit increase in Book Assets will lead to a 0.033 increase Performance of pension schemes, a unit increase in Market Share will lead to a 0.006 increase in Performance of pension schemes while a unit

increase in number of branches will lead to 0.003 increase Performance of pension schemes.

From the results, Number of Employees as a component of Performance of pension schemes contributes most to the Performance of pension schemes, which has the greatest t value of 5.185, while Number of Branches contributes the least which has the smallest t value of 0.115.

Guest et al. (2003), in their study on human resource management and corporate performance in the UK agreed that the number of staff involved in the daily running of an organization in a high performance system includes rigorous recruitment and selection procedures, incentive compensation systems, training and development activities, employee participation, flexible work arrangements and job security that organizations can achieve 'high performance' through the use of practices which can leverage employee's abilities and commitment.

Table 4. 12: Regression Analysis (2012)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.551	.354		10.0 39	.000
	Retained Earnings	.004	.090	.005	.042	.001
	Number of Employees	.001	.093	.000	.002	.000
	Book Assets	.057	.088	.072	.647	.002
	Market Share	.094	.077	.104	1.22 1	.003
	Number of branches	0.072	0.062	1.32	1.03 3	.009

a. Dependent Variable: Performance of pension schemes

Source: Research Findings

From the equation ($\text{NOP}it = \beta 0 + n\Sigma\beta i.\ln Xit + \varepsilon$), taking all factors (Market Share, Number of Employees, Book Assets, Number of Branches and Retained Earnings) constant at zero, Performance of pension schemes will be 3.551 .The data findings also show that a unit increase in Retained Earnings will lead to a 0.004 increase in performance of pension schemes; a unit increase in Number of Employees will lead to 0.001 increase in Performance of pension schemes and a unit increase in Book Assets will lead to a 0.057 increase Performance of pension schemes, a unit increase in Market Share will lead to a 0.094 increase in Performance of pension schemes while a unit increase in number of branches will lead to 0.072 increase in Performance of pension schemes.

From the results, Market Share as a component of performance of pension schemes contributes most to the Performance of pension schemes, which has the greatest t value of

1.221, while Number of Employees contributes the least which has the smallest t value of

0.002. The findings conquer with those of Hergert (2004) who used return on assets and

regressed against market share on nearly 5,400 businesses and 76 industries. In

examining individual firms he found a weak and somewhat nonlinear relationship

between market share and profitability. He concluded that the higher the market share,

the more profitable the company, however, he also conceded that those relationships

occurs up to a point after which the relationship cease to exist.

Table 4. 13: Regression Analysis (Year 2013)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.376	.366		6.500	.000
	Retained Earnings	.089	.090	.103	.984	.004
	Number of Employees	.186	.104	.194	1.784	.000
	Book Assets	.172	.109	.165	1.575	.002
	Market Share	.033	.099	.031	.329	.003
	Number of branches	0.001	0.005	.002	.231	.000
a. Dependent Variable: Performance of pension schemes						

Source: Research Findings

From the equation ($\text{NOP}it = \beta 0 + n\Sigma\beta i.\ln Xit + \varepsilon$), taking all factors (Market Share,

Number of Employees, Book Assets, Number of Branches and Retained Earnings)

constant at zero, performance of pension schemes will be 2.376 . The data findings also

show that a unit increase in Retained Earnings will lead to a 0.089 increase in

performance of pension schemes; a unit increase in Number of Employees will lead to 0.186 increase in performance of pension schemes and a unit increase in Book Assets will lead to a 0.172 increase performance of pension schemes, a unit increase in Market Share will lead to a 0.033 increase in performance of pension schemes while a unit increase in number of employees will lead to 0.001 increase in performance of pension schemes .

From the results, the number of employees as a component of performance of pension schemes contributes most, and has the greatest t value of 1.784, while Number of Branches contributes the least with the smallest t value of 0.231.

4.5 Interpretation of the Findings

The study findings, per Table 4.7, indicates that of all the five independent variables studies (Market Share, Number of Employees, Book Assets, Number of Branches, and Retained Earnings) 94.8% of variance in pension fund performance was explained as represented by the R^2. This therefore means that other factors not studied in this research contribute 5.2% of variance in the dependent variable. Further, the F critical at 5% level of significance was 5.21. Since F calculated is greater than the F critical (value =45.69), this showed that the overall model was significant and that the predictor variables, explain the variation in the dependent variable which is performance of pension schemes. If the significance value of F was larger than 0.05, then the independent variables would not explain the variation in the dependent variable.

From the results derived in Table 4.9 for 2009, Book Assets as a component of performance of pension schemes contributes most to the Performance of pension

schemes, which has the greatest t value of 9.249, while Number of Employees contributes the least which has the smallest t value of 2.109. McGill et al. (2005) backs up these findings as they argue that pension funds have diversified investments which affect their performance.

From the results derived from Table 4.10 for the year 2010, Retained Earnings as a component of performance of pension schemes contributes most to the performance of pension schemes, which has the greatest t value of 2.169, while Book Assets contributes the least which has the smallest t value of 0.115. This study collaborates with the findings of Fening et. al (2008) on their study on the relationship between quality management practices and the performance of small and medium size enterprises who argues that retained earnings as a measure of performance in pension schemes has a positive relationship with the performance.

From the results derived in Table 4.11 for the year 2011, the Number of Employees as a component contributes most to the performance of pension schemes in Kenya, which has the greatest t value of 5.185, while Number of Branches contributes the least which has the smallest t value of 0.115. Guest et al. (2003), in their study on human resource management and corporate performance in the UK agreed that the number of staff involved in the daily running of an organization and their motivation can leverage employee's abilities and commitment, hence increasing their performance.

From the results for the year 2012, per Table 4.12, Market Share as a component of performance of pension schemes contributes most to the Performance of pension schemes, which has the greatest t value of 1.221, while Number of Employees contributes

the least which has the smallest t value of 0.002. The findings conquer with those of Hergert (2004) who used return on assets and regressed against market share and concluded that the higher the market share, the more profitable the company. From the year 2013 results, per Table 4.13, the number of employees as a component of performance of pension schemes contributes most, and has the greatest t value of 1.784, while Number of Branches contributes the least with the smallest t value of 0.231.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section mainly covers the summary of findings, conclusion, limitations of the study and recommendations in line with the topic of study that is to determine the effects of firm size on financial performance of pension schemes in Kenya.

5.2 Summary

This section gives a summary of the effects of the various variables on the performance of pension schemes in Kenya. From the findings above, the lowest rate of return in 2009 and 2010 was 5% and a high rate of 18% was achieved in 2013. From the findings the rates are seen to be increasing as the years progress implying that the insurance firms continues to do more investment hence more returns.

The study sought to find out the relationship between the book assets and the financial performance of pension schemes in Kenya. The value of the book assets was 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 as shown below. According to Asebedo and Grable (2004), investment diversification leads to average performance but minimizes losses during periods of poor stock market performance. Through proper investment strategy, risk is avoided and timing is enhanced (Hebb 2006).

From the findings, 19.9% below 10, 26.2% of the pension had between 10-14 branches, 22.7% between 15-19, 16% between 20-29, and 11.3% between 30-39 while 3.9% had

above 40 branches. Hirtle and Metli (2004) observed that after controlling a variety of institution-specific and market-specific factors, banking organizations with mid-sized branch networks – those containing 101 to 500 branches – had lower deposits per branch and roughly equal volumes per branch relative to banks with larger branch networks.

From the findings of the study, it showed a positive relationship between performance of pension schemes and retained earnings. The coefficient of determination (R Square) and correlation coefficient (R) showed the degree of association between retained earnings and performance of pension schemes in Kenya. From the linear regression model it is shown that R Square=0.927 and R=0.858, an indication that there is a strong linear relationship between retained earnings and performance.

The summary statistics from figure 4.2 provide indications of such a relationship. From the findings, as the number of employees increases, performance also increases proportionately. The study also found out those smaller funds are more efficient compared with the larger funds. The reasons for this finding lie in the fact that large pension funds experience diseconomies of scale (Dahlquist, Engstrom and Soderlind 2000). These diseconomies result from excessive administration costs incurred in communicating to the members, fund administration and regulatory levies (Gallagher and Martin 2005). According to Odundo (2008) and Nyakundi (2009), one of the issues that contribute to the inefficiency of the National Social Security Fund in Kenya is the estimated membership of 800,000 members who are dispersed across the country

A negative relationship between financial performance and fund size is reported in Cicotello and Grant (1996). On the other hand, a positive relationship between the same

variables is reported in Gallagher and Martin (2005). It is reported that larger pension funds brought about by the size of the pension can achieve numerous benefits brought about by economies of scale in administration (Cheong, 2007). The study therefore induces that fund size exerts a positive influence on the financial efficiency of pension funds.

5.3 Conclusion

The study concludes that that there has been significant market volatility as evident from the NSE index, Treasury bill rate movement and offshore indices. This has resulted mainly from aftershocks of the global financial crisis and deepening political uncertainty as the country transitions from a coalition government to a devolved government. The market volatility has impacted on pension scheme performance very strongly, with good periods showing significant positive growth and bad periods of negative performance. These swings are exacerbated by a significant negative correlation between the NSE prices and interest rates on government securities which together constitute 70% of pension scheme assets.

The study further concludes that Pension funds with more members are expected to have a higher value in contributions and assets compared with smaller ones (Chan et al. 2004). The funds therefore receive sizable contributions that may result in inefficiency in investments (Dahlquist et al. 2000). Thus the larger pension funds have large sums of money at their disposal that they tend to invest in less profitable ventures as opposed to smaller pension funds with smaller financial resources that force them to allocate the money judiciously to the most profitable opportunities.

Finally the study concludes that smaller pension funds are more financially efficient than larger ones since the bigger have large sums of money which they may end up inefficiently investing. Smaller pension funds have smaller financial resources which they have to invest more judiciously. Furthermore, larger pension funds with huge investments in the stock market are exposed to more risk compared with smaller funds.

5.4 Recommendations for Policy

The study recommends that RBA should ensure all schemes, particularly those with segregated investments, have up to date investment policies and that the strategic asset allocation is included within the investment policy. This ensures that funds are invested wisely and profitably as per the laid policies. Further the study recommends compulsory savings for all in employment. Though compulsory, the accounts should be treated as individual accounts, where the individual makes the decision on where he would want to save in. To include individuals in the informal sector, there is a need to introduce flexible schemes that would allow members to make periodic payments other than the continued monthly payments in formal employment.

Finally the study recommends undertaking of a comprehensive reform of the type required to achieve the proposed objectives, that requires a co-ordinated strategy and a significant amount of ground work in terms of evaluation of policy and implementation choices extending to enactment of enabling legislation, building of institutional capacity and sensitization of approved reform programmes. It will also be critical to prioritize the reform objectives in implementing the reforms.

5.5 Limitations of the Study

A major limitation in the study was to conclusively obtain financial statement from all of the market players in the occupational pensions sector. This is stemmed from the fact that there is corporate privacy, and as such revealing the annual reports was a challenge and access to annual financial reports was restricted to directors only. Even though the information was for academic purposes only, in some entities it was felt that it may land in competitors' hands. An assurance against this had to be given by the researcher.

The study is based on financial and corporate data that is historical. The findings of the study may therefore not be fully applicable at the time of the study due to the dynamic operating environment in the Kenyan market in social, political and economic areas.

Lastly the study is limited to the extent that its focus is on a specific country and industry, Kenya and pension schemes respectively. The pension industry is relatively new in the country. There was not really any benchmark from within the country in terms of previous study of similar nature.

5.6 Recommendation for Further Studies

The study was done to determine the effects of firm size on financial performance of pension schemes in Kenya. Further studies should be carried out on challenges affecting implementation of pension schemes reforms, corporate governance and development of the enabling legislation.

The study recommends that further research on the firm size be done on other industries so as to augment the findings of this study. This is because different industries have

unique characteristics and critical success factors affecting sustainable financial performance.

This study may need to be replicated after duration of five years or more to establish whether the situation has changed or will still be the same. The nature of this research in terms of measurability requires a relatively longer period of time to conclusively determine the effects of firm size on financial performance of pension schemes in Kenya due to the ever changing environmental, economic and political factors. Further research can also be carried out to include other sectors in the economy not included in this study so as to determine any significance differences on the effect of firm size on financial performance.

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APPENDICES
Appendix I: Occupational Pension Scheme in Kenya as at 31ˢᵗ December 2013

Defined Benefits Schemes

1. Alexander Forbes Financial Services
2. Aon Kenya Insurance Brokers
3. Apollo Life Assurance
4. British-American Insurance Company
5. CFC Life Assurance
6. Chancery Wright Insurance Brokers
7. Eagle Africa Insurance Brokers
8. Kenindia Assurance Company
9. Kingsland Court Benefits Services
10. LAPTRUST Administration Services
11. Liaison Financial Services
12. Liberty Pension Services
13. Madison Insurance Company Kenya
14. Mercantile Insurance Company
15. Octagon Pension Services
16. Pacific Insurance Brokers
17. Pan Africa Life Assurance
18. Roberts Insurance Brokers
19. Sapon Insurance Brokers
20. Sedgwick Kenya Insurance Brokers

Defined Contributions Schemes

21. National Social Security Fund
22. Pyrethrum Board of Kenya Staff Retirement Benefits Scheme
23. Credit Traders Staff Retirement Benefits Scheme
24. ICEA Trustee Services
25. Kenya Reinsurance Corporation Staff Pension Scheme
26. Kenya Ports Authority Pension Scheme
27. Kenya Tea Development Authority Staff Provident Fund
28. The Kenya National Library Service Board Staff Retirement Benefits Scheme
29. University of Nairobi Pension Scheme
30. Moi University Pension Scheme

(Source: Retirement Benefit Authority, 2014)

Appendix II: Internal Rates of Return 2009 – 2013

Company	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)
Apollo Insurance	9	10	11	11	12.50
British American	6	9	15	10.25	18.00
CFC Life	5	6	10	8.50	11.00
Corporate Insurance	8	8	8	5.0	10.00
ICEA	8	8	10	8.75	15.00
Jubilee	8	8.15	11.5	7.62	9.00
Kenindia	8	11	12.75	10.50	12.75
Kenya Alliance	9.5	7	12	10.00	11.00
Madison	6	8.25	10	10.00	10.00
The Monarch	9	10	11	11	12.50
UAP	6	9	15	10.25	18.00
Pan Africa Life Insurance	5	6	10	8.50	11.00
Mercantile Insurance	8	8	8	5.0	10.00
Alexander Forbes Financial Services	8	8.15	11.5	7.62	9.00
Aon Kenya Insurance Brokers	8	11	12.75	10.50	12.75
National Social Security Fund	9.5	7	12	10.00	11.00
Credit Traders Staff Retirement Benefits Scheme	6	8.25	10	10.00	10.00
Kenya Reinsurance Corporation Staff Pension Scheme	5	12	10	7.00	10.00
Kenya Ports Authority Pension Scheme	12	5	10	9.00	10.00

KTDA Staff Provident Fund	7	10	12.25	12.50	16.0
The Kenya National Library Service Board Staff Retirement Benefits Scheme	8	8	7	11.00	12.50
University of Nairobi Pension Scheme	7.51	8.33	10.7	9.32	16.0
Moi University Pension Scheme	5	12	10	7.00	10.00
Sedgwick Kenya Insurance Brokers	12	5	10	9.00	10.00
Sapon Insurance Brokers	7	10	12.25	12.50	12.13
Liberty Pension Services	8	8	7	11.00	12.50
Octagon Pension Services	7.51	8.33	10.7	9.32	12.13
Roberts Insurance Brokers	8	8	10	8.75	15.00
Average	7.66	8.45	10.73	7.63	7.35

Source: Research Findings