

**THE IMPACT OF QUANTITATIVE PORTFOLIO CEILING ON FINANCIAL
PERFORMANCE OF PENSION SCHEMES IN KENYA: A CASE STUDY
OCCUPATIONAL PENSION SCHEMES**

EDWIN KIPRONO RUTTOH

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DECLARATION

This is my original work and has not been submitted for degree award in any other university.

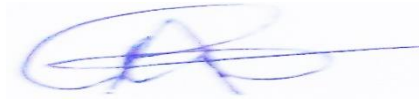
Signature..... ER.....Date.....8/11/2020.....

Edwin Kiprono Ruttoh

D61/65710/2013

Supervisor:

This research project has been submitted for examination with my approval as university supervisor.



Signature.....Date.....12/11/2020.....

Dr Angela Kithinji, PhD

Finance and Accounting Department

School of Business, University of Nairobi

DEDICATION

I dedicate this work to my family for their consistent support and encouragement throughout the project cycle.

ACKNOWLEDGEMENT

I foremost, wish to thank the Almighty God for the gift of life and seeing me through to the completion of this project.

I sincerely wish to thank my Supervisor, Dr Angela Kithinji for her guidance, relentless support, and patience during the entire research period. I will always remain indebted to her guidance and mentorship. My appreciation also goes to the Faculty team for their input in this project.

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LIST OF ACRONYMS AND ABBREVIATIONS

CAPM	Capital Asset Pricing Model
CSPS	Civil Servants Pension Schemes CSPS
DB	Defined Benefits
GDP	Gross Domestic Product
MPT	Modern Portfolio Theory
ORS	Occupational Retirement Schemes
RB	Retirement Benefits
RBA	Retirement Benefits Authority
UK	United Kingdom
US	United States

ABSTRACT

Pension funds play a key role towards economic growth and development of Kenya. Apart from guaranteeing smooth flow of pension funds to the retirees, they also generate employment opportunities for thousands of Kenyans. To safeguard the retiree's funds, the government of Kenya introduced quantitative portfolio ceiling law which became operational in the year 2001. Evidence from other countries suggest that such a law could have a negative impact on financial performance of these noble schemes. Due to limited evidence locally, the current study investigated how these portfolio ceilings impact financial performance of occupational retirement pension schemes in Kenya. Secondary data was collected for a period of 15 years, that is, 10 years before the enforcement of the restrictions, and 5 years after. Pooled ordinary least square approach was adopted to estimate results. Findings indicate that quantitative portfolio ceilings related to cash balances, fixed deposits, and government securities have a negative impact on financial performance of occupational retirement benefit schemes. The study also established that restrictions on immovable properties have a positive impact on financial performance. Furthermore, ceilings on both quoted and corporate securities have no impact on occupational retirement pension scheme's financial performance. Following these findings, the study recommends a review of quantitative portfolio ceilings with respect to cash balances, fixed deposits and government securities to address the negative impact on the financial performance of pension schemes in Kenya.

CHAPTER ONE: INTRODUCTION

1.1 Background

Pension funds in both developed and developing countries are characterized by restrictions on investment such as ceilings for stocks and international assets (Solnik & McLeavey, 2009). In developing countries, these restrictions are relatively strict. In Kenya, the pension industry was unregulated until 1997 when the government enacted Retirement Benefits Act which became operational in the year 2000 upon gazettelement. The Act governs the management and administration of the pension funds industry (Meng, & Pfau, 2010). It is through this Act that investment guidelines of pension funds were drawn and subsequently came into force. The Act contains investment guidelines which provide for maximum investment ceiling in any asset class that pension funds have to observe. Such restrictions could have an impact on financial performance of pension funds and ultimately on retirement benefits. Roldos (2004) argue that pension funds especially in developing countries should be allowed to liberalize restrictions on portfolio limits and shift to the “prudent person rule” which gives more flexibility for the managers to make decisions on investment strategies in relation to how investments affect the overall risk of the portfolio. Nevertheless, there is limited evidence on the impact of investment portfolio ceilings on the financial performance of pension funds regionally with Kenya as an example.

The study is anchored on two main theories, that is, Modern Portfolio (Harry, 1952) and Black Litterman’s (Fischer & Litterman, (2012) theoretical perspectives. The Modern Portfolio theory argues that portfolio mix is critical in enhancing the performance of retirement benefits schemes (Blome, Fachinger, Franzen, Scheuenstuhl., & Yermo, 2010). Thus, due to restrictions on portfolios in the industry, the best portfolio mix is unlikely to be realized which could compromise financial performance. Black Litterman’s model is a modification of Capital asset pricing theory

and modern approach which gives impartial weights of portfolio mix based on speculators perspectives. The main idea behind this theory is whether financial managers of these schemes can generate impartial weights of their investment portfolios under the restrictions.

The Retirement Benefits Schemes (RBS) in Kenya operated largely without a specific regulator before 2001 when the Retirement benefits Act of 1997 was operationalized through gazettelement. This was despite the critical role played by the sector in the mobilization and allocation of resources to other sectors of the economy (Meng, & Pfau, 2010). The introduction of these laws brought in capping of the portfolios to avoid too much exposure of the pensioners' contributions and guarantee retired employees of the benefits. However, it still remains unclear on how these portfolio ceilings affect financial performance of pension schemes in Kenya.

1.1.1 Portfolio Ceilings

Retirement Benefits Schemes are controlled by the Retirement Benefits Authority established under Benefits Act of 1997. Under the Act, RBA is given the mandate to manage these schemes, ensure their efficiency and fulfillment of their main goal of ensuring that retired employees get their pension on time. The Act also provides guidelines allowing the RB plans to name asset managers.

In addition, the Act contains provisions on investment guidelines to fund managers whereby assets classes and the maximum percentage investment per class is given to avoid exposure of the pensioners' money. The guidelines provide that cash and demand deposits in the institutions licensed under the banking Act should not exceed 5%, fixed deposits are capped at 30% of the total assets while, government securities and corporate bonds ceiling is 70%. Quoted equity, immovable property and other investments are capped at 70%, 30% and 10% respectively.

These policies provide guidelines on risk profiles of various asset categories invested in the pension fund management companies. Nevertheless, RBA does not specify the assets in which the pension schemes ought to invest in but rather, gives guidelines on asset classes or categories. Thus, the schemes can decide which assets they consider ideal to maximize their returns by choosing and adopting well-diversified portfolio (Puttonen, 2015). Studies on the impact of portfolio ceilings on financial performance remains scanty. Nevertheless, a few of the studies measure portfolio ceiling by an amount of money/assets allocated to different classes of portfolio as specified in the guidelines (OECD, 2010).

1.1.2 Financial Performance

The financial performance of pension schemes can be measured using the returns on assets, profits or increase in capital dispersals for a given period. Hinz, Rudolph, Antolin and Yermo (2010) notes that the structure schedule of retirement income has shifted from defined benefits (DB) plans to plans where pension is held up in assets, either, individually or in aggregate schemes. They further argued that many pension schemes are in the process of becoming assets backed due to uncertainties of investment markets in determining the level of benefits they will gain.

The reason for measuring portfolio performance is to be able to know whether pension fund managers are adding value or not or whether the investment strategies being deployed are working in terms of value addition. Better portfolio performance depends on prudent allocation of assets. Financial performance of pension plans can therefore be measured by the extent to which the fund's manager deliver's on the returns to assets set by investment committees in relation to the performance of the industry. This financial performance will mostly depend on the investment portfolio and the risks involved. Usually, risky investments delivers higher returns in comparison with those funds where the investors are risk averse (Brinson, Hood & Beebower, 2016).

1.1.3 Portfolio Ceiling and Financial Performance

Allocation of pension schemes funds to various investments has an implication of their financial performance. Blake, Lehmann and Timmermann (1998) observed that assets allocation choices of pension funds in the United Kingdom (UK) explained about 96 percent of the variations in monthly portfolio returns among the pension schemes. In addition, they stated that in the UK, holding of normal asset class determined more than half of the variations in the portfolio returns.

Financial performance of pension funds is largely linked to investment decisions of the fund's managers. Brinson, Hood, and Beebower (2009) noted that investment policies dominates investment decisions and therefore, they largely explain returns to investment. Prudence in the allocation of resources of the pension fund is therefore likely to lead to better performance. It has been established that poor macroeconomic conditions, unattractive investment opportunities, poor governance and knowledge of the fund's manager explain lack of diversification and hence, poor financial performance (Randle, & Rudolph, 2014). In some countries, portfolio ceilings have emphasized on short-term investment and not long-term generation of income via use of asset classes. Regulations on funds allocation through restrictive asset class limits is also another factors determining the performance of pension funds. Nevertheless, there exists limited empirical evidence on how these restrictions affect financial performance.

1.1.4 Pension Schemes

Retirement Benefits (RB) plan in Kenya can be traced back to the period immediately after independence with what was known as primary Post Independent Retirement Benefit Plan Fund Unit. This later developed into National Social Security Fund (NSFF) in the year 1965. Retirement benefits plans were designed to offer benefits to employees once they achieve retirement age of 55 years (RBA, 2007). The RB schemes are guided by various legislations including parliamentary

Acts: Trustee Act Cap 164, Cap 167 and the Retirements Benefits Act of 1997 which sets out the regulations of RB schemes. This Act was operationalized in October 2001 upon its gazettelement (Bodie, Detemple & Rindisbacher, 2009).

These regulations were aimed at separating pension funds from employer's funds which was not the case before where employers used to utilize these funds for firm operations which had negative effect on the mandate of the these schemes (Omonyo, 2003). Examples of pension funds that experienced these challenges include University of Nairobi, Railway Corporation, and Postal Corporation of Kenya. Prior to these regulations, pension funds experienced inefficiencies in the management of employees' benefits and hence, members were not well protected. Misappropriation and mismanagement of funds was rampant and hence, there was lack of confidence in the sector.

In Kenya, there are four types of RB plans which are: individual retirement plans, NSSF, Civil Servants Pension Schemes (CSPS), and Occupational Retirement Schemes (ORS). NSSF schemes is compulsory for all employees both in the private and public sector. In this scheme, members contribute about 5 percent of their earnings per month with the highest of Kshs. 2000 and the employer contributes the same amount. The CSPS comprises of public employees of the judiciary, military workforce, Kenya armed forces, parliamentarians and teachers. The occupational schemes comprises of employees RB plans for the private sector work force. ORS in Kenya are managed on the RB scheme structures. The individual pension scheme is run as a trust, and the membership is open to all citizens (Kagunda, 2011). The individual Retirement Schemes (IRS) are usually operated by financial and insurance firms in Kenya which mostly offer investment avenues for those employees who have no other retirement plans or would like to have extra benefits.

1.2 Research Problem

Pension funds contribute immensely to the growth and development of an economy (Croese, Kaminker, & Stewart, 2011). The main purpose of these funds is to provide secure income for the retirees with least cost possible. Conventionally, pension plans were pay-as-you go systems which ensured that employees received stable and generous streams pension income throughout their retirement. Nevertheless, in the recent times, and particularly in developing countries, these plans have been replaced by advanced funding systems like defined contribution pension plans where, income at retirement depends on investment decisions and hence, not guaranteed (OECD, 2008). This means that it is only effective management of funds and careful investment which can guarantee income security of the retirees.

Currently, more focus has been given to pension schemes globally due to mixed performance. Evidence suggest that public pension schemes have performed dismally during the last decade relative to private pension plans globally (Puttonen, 2015). Financial performance of pension funds in Kenya has generally not been impressive. Questions and concerns related to the quantitative ceilings on investments of retirement benefit funds imposed by the Retirement Benefits Act and Regulations, has become repeatedly asked by stakeholders within the pension industry. Key concern is the potential of the restrictions to inhibit the returns on investments and therefore growth of the industry. One school of thought advances the view that the ceiling has become counterproductive due to the opportunity costs from investments in high yielding asset classes.

Nevertheless, there is limited empirical evidence on the impact of these ceilings on financial performance of pension schemes in Kenya since the operationalization of these regulations on investment ceilings. Most previous studies have paid attention on how portfolio diversification, and domestic market affect performance of pension schemes. For instance, the most recent study

by Wanjiru (2018) sought to establish the effect of portfolio mix on financial performance among pension schemes in Kenya. The study found a positive effect of the portfolio mix on financial performance. On his part, Kigen (2016) researched on the effect of firm size on financial performance where a positive effect was also established. Adhiambo (2016) study focused on the compliance levels of pension funds to portfolio regulations. In addition, these past studies have measured performance in general terms. Thus, studies have not adequately addressed the impact of portfolio ceilings on the financial performance of retirement benefits schemes in Kenya.

1.3 Objective

The study seeks to investigate the impact of quantitative portfolio ceiling on financial performance of pension schemes in Kenya.

1.4 Value of the Study

This study is very significant in many respects. Firstly, the study will contribute to both theory and empirical evidence on the impact of portfolio ceilings on the performance of RB schemes in general. This is also informed by limited literature on this concept. Secondly, findings of the study could inform policy guidelines and frameworks in an attempt to enhance the performance of the RB schemes around the country. This will go a long way in ensuring safety of the pensioners benefits, employment creation and ultimately, economic growth and development. Finally, the study provides useful information as well as recommendations upon which future studies will be based.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter consists of literature review which is sub-divided into theory and empirical. The study has attempted to discuss both theoretical and empirical studies related to the topic under study, that is, how quantitative portfolio restrictions impact the financial performance of pension funds across the world. In addition, the chapter contains summary of research gap and finally, conceptual framework. The next sub-section presents a discussion on the theories underpinning the study.

2.2 Theories

A theory is a set of concepts that explain phenomena. Normally, studies are anchored on theoretical issues in the sense that, empirical evidence is sought to test hypotheses. There are various theories which can inform the current study. However, key among these theories which are most ideal to guide the current study are modern portfolio and Black Litterman's theories.

2.2.1 Modern Portfolio Theory

The Modern Portfolio Theory (MPT) propounded by Harry Markowitz (1952), attempts to explain the possibility that risk-reluctant managers can develop portfolios to enhance anticipated advantage based on given market segment. The theory is also called portfolio of the managers. MPT argues that it is plausible to accumulate impeccable portfolios which offers the best returns for a given hazard segment.

The theory proposes that by setting resources into for instance, excess of one stock, an investor can get the prizes of expansion, which is also known as not gambling everything on one portfolio. Harry Markowitz developed a model which factors in collaborations between various investment portfolios, and the relationships existing between them, to progress the proportions among risk and yield subsequently indicating that a mix of few arrangements of benefits could reduce a chance,

given that financial managers chooses those benefits that move freely of one another as would be sensible. This theory advocates for expansion and distribution of risks in various classes of assets as a defense to speculation.

Pension schemes invest their funds in variety of portfolios to spread risks in an attempt to enhance their returns to keep them thriving. Nevertheless, restrictions on investment portfolios is likely to reduce their decision making when it comes to investment decisions. The Modern Portfolio Theory is therefore critical for this study in understanding the financial performance of pension funds in the wake of portfolio ceilings. Specifically, the theory guides the study in investigating the impact of these restrictions on financial performance through choice of portfolios.

2.2.2 Black Litterman's Theory.

This theory was developed by Fischer Black and Robert Letterman in 1990 as explicated in Fischer and Litterman (2012). The theory combines the ideas from Capital Asset Pricing Model (CAPM) and those from Modern portfolio theory to give direction to the financial managers on the ideal portfolio weights under clear parameters. Prior to this model, speculators used to include anticipated returns of the benefits into MPT to generate portfolio weights. Nevertheless, this mode did not return weights that reflected the general financial manager's position specifically, when the investors had assessments regarding the way certain markets or benefits perform later.

The Black Litterman's theory was therefore an attempt to give unbiased weights to speculators which can be balanced with assumptions of the expected market performance. There are two key assumptions of this model: Firstly, all benefits returns pursue a similar prospect dispersion where typical appropriation is selected. However, investors can pick any distribution that is bet fit. Secondly, the variance of the earlier restrictive distribution about candid methods for the benefits

and what financial managers sees are obscure. The financial managers should consequently obtain the inferred market returns received from CAPM to have the ability to use Litterman demonstration (Satchel, & Scowcroft, 2000). In the case where financial manager agrees with inferred returns, they can use nonpartisan weights generated by Litterman's model to come up with the idea of portfolio. Nevertheless, this may not dispute the inferred market yield given by CAPM. Thus, Black Litterman's model is a modification of CAPM and MPT which gives impartial weights based on speculators perspectives.

The aim of pension schemes is finding the best portfolio mix that would maximize on the returns. Thus, the Black Litterman's theory is instrumental for the current study. The theory guides the study in understanding how the portfolio ceilings have affected portfolio mix of the pension funds and the impact on the financial performance. Off great importance is whether financial managers of these schemes can generate impartial weights of their investment portfolios under the restrictions.

2.3 Determinants of financial performance

Financial performance of the pension funds is not only crucial for economic growth and development but, also ensure that retirees are able to get their pensions on time. There are various factors which inform financial performance of pension funds. This section focuses on key determinants of financial performance of pension funds.

2.3.1 Portfolio Mix

Portfolio mix is a critical aspect regarding investment and holistic management of pension funds across the world. It enhances diversification of risks. Dasgupta et al, (2011) held that portfolio mix enhances the cash flow of pension funds and hence, pension schemes can invest in ventures with positive returns. Weighing of individual securities within the portfolios is fundamental. This imply

that portfolio mix is very critical towards the performance of pension schemes, that is, good mix delivers better financial performance (Freeman, Wicks, & Parmar, 2004).

It has been shown that bigger pension schemes enjoy economies of scale which enables them to spread their risks and hence, enhanced financial performance. It is therefore imperative for pension schemes to carefully select their investments to reduce cases of non-performing investments. Reduced cases of non-performing investments to total investments is an indication of better performance of the scheme. The way in which pension funds allocate resources among investments explains most of the total performance of the schemes.

2.3.2 Capital

Access to capital is very crucial to the financial performance of pension schemes. Accessibility to capital in the pension schemes is best measured by the ratio between assets and liabilities. A ratio more than one is an indication that the scheme has more assets to meet its liabilities (Drobotz, & Kohler, 2002). A higher ratio implies that the scheme is underutilizing its assets. Nevertheless, accessibility to liquid cash is a major challenge in the emerging markets. Individuals with little access to capital are likely to face limited assets at retirement age, and as such, low retirement livelihoods (Njeru, 2014).

Accessibility to capital determines the level of firm's commitment. Density of commitment influences pension funds return to investment. This imply that pension schemes which are accessible to large capital have an advantage to invest heavily and hence, bigger returns.

2.3.3 Age of Retirement

Scholars have shown that age of retirement for supporters of pension schemes is an important determinant of financial performance. Kipkoech (2012) argues that pension funds with large proportion of youthful employees will mostly have access to monetary assets coming from

contributions and hence, higher likelihood of success. Nevertheless, it has been observed that if majority of contributors to these schemes are old people who are almost getting to retirement, the pension funds might be required to spend more of their assets in settling retirement benefits and therefore foregoing investment opportunities.

However, it should be noted that the main reason for the existence of pension schemes is the financial security of retired people. People save for retirement during their active life period in employment, and hence, the more there are people in active employment, the more the savings. This could explain the reason why some governments increase the retirement age to delay retirement.

2.3.4 Economic Performance

The overall performance of the country's economy is another factor which could affect the financial performance of pension schemes. For instance, if the economy is in recess which is characterized by job layoffs or lack of recruitment on the part of companies, then, there could be more withdrawals than contributions in the pension schemes. This could in turn reduce portfolio returns.

2.4 Empirical Review

Various studies have paid attention to the concept of portfolio ceilings and its impact on financial performance of pension schemes both locally and internationally. To begin with Davis (2002) conducted a study on the impact of portfolio restrictions on the returns of pension funds. The study employed both descriptive and inferential statistics to investigate the relationship between portfolio ceilings and returns on investment. Findings revealed that restrictions on portfolio had a negative effect on firm's performance. The study recommended that, the prudent person's rule was ideal for regulating pension schemes and not investment regulations by the government authorities.

In addition, the author suggested that for pension funds to thrive, there should be well-developed financial domestic markets for domestic investments by the pension funds. However, this study can be criticized on the ground that the dependent variable was measured generally, and not specific as for the current study.

Bhargawa et al. (2004) employed mean-variance approach to investigate the impact of portfolio diversity on the performance of pension funds in the United States (US) of America. The study established that diversification of risk increases returns for a typical US investor with international diversification. Nevertheless, the study paid attention on the diversification strategy of firms and not on portfolio ceilings as the current study. It is therefore expected that findings for the two studies are likely to differ. In addition, the US economy is more advanced than Kenya, and hence, the two countries have different economic dynamics and policy environments. Hence, findings from the US firms may not apply to the Kenyan situation.

A study by Chan-Lau (2005) sought to investigate the impact of portfolio mix on the domestic market on the performance of pension schemes in Chile. The study established that domestic markets in developing countries cannot provide sufficient financial assets necessary for pension schemes. The study concluded that the size of the pension fund's assets was directly related to the size of the domestic market. Furthermore, the study noted that if the pension funds invested in the domestic stock market heavily, then they will play a critical role which could translate into a significant impact on asset prices.

Another study on the global scene has revealed that portfolio ceilings on pension funds is a big barrier to international diversification in many developing countries. The study which was conducted among the Organization for Economic Cooperation and Development (OECD)

countries, observed that imposing restrictions on portfolios for pension schemes limits their operations and hence, performance (OECD, 2010).

Pfau (2011) conducted a study on the effect of portfolio diversification on returns of pension funds. The study noted that half of the portfolios of pension funds in developing countries should be in the world assets through international diversification. With restrictions of portfolio of pension funds, this threshold is unlikely to be achieved particularly in developing countries like Kenya. For instance, the study observed that countries such as India, Morocco, Sri Lanka, Pakistan, Indonesia, and Egypt do not allow pension schemes to invest in international assets. Nevertheless, this study paid attention on the impact of portfolio diversification and not ceilings which the current study sought to address.

In relations to Kenya, Kigen (2016) sought to establish the effect of firm size on the financial performance of pension funds in Kenya. A total of 93 pension funds were included in the survey which employed both descriptive and inferential statistics. Findings of the study showed that the size of the pension fund was positively related to financial performance. While this study focused on how the size of the pension fund affect financial performance, the current study sought to examine the impact of portfolio ceilings on financial performance.

In another related study, Adhiambo (2016) investigated compliances levels of pension funds to government regulations. Specifically, the study sought to find out factors considered by pension schemes in choosing fund managers, and the compliance checks to RBA's guidelines regarding portfolio ceilings. Primary data was used and data analysis was done using descriptive statistics. The study established that 55 percent of the pension funds had defined benefits. In addition, the study found existence of the relationship between RBA guidelines and risk, returns and liquidity

of the pension funds. Furthermore, the study observed that all pension funds sampled in the study, had complied with RBA guidelines. Nevertheless, the current study focused on the effect of portfolio ceilings on the financial performance of pension funds in Kenya. In addition to descriptive statistics employed by Adhiambo (2016), the current study included inferential statistics such as correlation and regression analyses.

Wanjiru (2018) investigated the effect of portfolio mix on performance among 33 pension schemes in Kenya. The study applied Ordinary Least Square method on secondary data. Findings of the study indicated that, the size of the portfolio influences performance of pension funds in Kenya. Nevertheless, the study focused on portfolio mix and not portfolio ceilings as for the case of the current study.

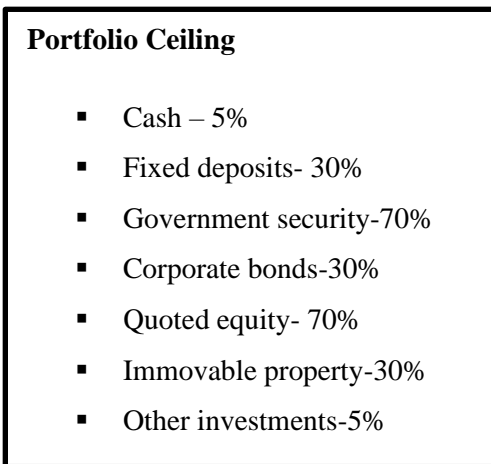
2.5 Summary of research Gap

The study has reviewed several studies related on the portfolio ceilings and performance of pension funds both globally and locally. Nevertheless, the literature indicate that the impact of quantitative portfolio ceiling on financial performance of pension schemes has not been given more attention. Both theory and limited studies in foreign countries have shown that portfolio ceilings provide a barrier to investment by the pension schemes which can affect financial performance. Most studies have focused on the effect of portfolio diversification, and domestic market on performance. In addition, the performance indicator in majority of these studies was general and not specific. Locally, most studies have focused on the effect of firm size, and portfolio mix on the performance of pension funds in Kenya. Another recent study paid attention on compliance levels of pension funds in Kenya and not portfolio ceilings. Thus, the current study sought to conduct robust investigation on the impact of portfolio ceilings on the financial performance of pension funds in Kenya.

2.6 Conceptual Framework

Conceptual framework illustrates the relationship between dependent and independent variables in a study. This helps in understanding channels through which dependent variable is affected by explanatory variables. In this study, financial performance of RB schemes is the dependent variable while portfolio ceiling constitutes the explanatory variable as presented in Figure 2.1.

Independent variable



Dependent variable

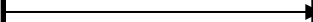
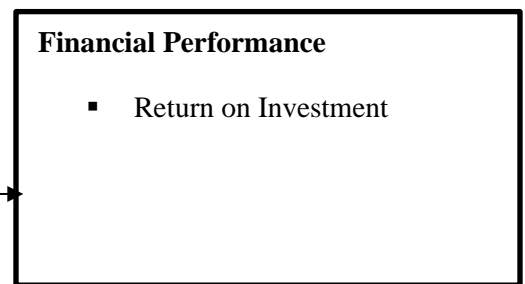


Figure 1: Conceptual Model

The study investigates how restrictions of cash, fixed deposits, government security, corporate bonds, quoted equity, immovable property and other investments affects the financial performance of RB schemes. Return on investment was used to measure financial performance.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter elaborates on the methodology that the study adopted in responding to research objective. Specifically, the chapter explains design of the study, target population, sample size and sampling technique employed. In addition, research instruments, diagnostic tests as well as data analysis methods are discussed. The chapter ends with ethical considerations.

3.2 Research Design

Research design refers to a plan of action on data collection and analysis (Kothari, 2014). Research design is informed by the nature of the study and what the study sets out to accomplish. The design constitutes a blueprint for collection, measurement, and analysis of data. This study employed descriptive study design to examine the effect of portfolio ceilings on financial performance of pension funds in Kenya. Descriptive design is ideal in situation where the intention of the researcher is to understand the way things are as is in the case of this study (Mugenda & Mugenda, 2012). In addition, the design allows the study to use mixed methods such as quantitative and qualitative, descriptive as well as inferential statistics in investigating a phenomenon. Thus, the study utilized this design to examine the effect of portfolio ceilings on the financial performance of pension schemes in Kenya.

3.3 Population

The population in research refers to all elements with observable characteristics of interest (Cooper and Schindler, 2008). This study targeted all occupational retirement pension schemes (ORPS) in Kenya. According to the RBA report of 2018, there are 170 ORPS in Kenya. These are employment-based schemes which are established voluntarily by employers. They are funded through employers and employees' contributions. However, the study incorporate only those

ORPS which were in existence by 1991 to measure the impact of portfolio ceiling on financial performance. Statistics show that only six of these schemes were in existence within this period. They include National Social Security Fund Staff Pension Scheme, Kenya power pension fund, Kenya Forestry Staff retirement benefit scheme, University of Nairobi retirement benefit scheme, Maseno University retirement benefit scheme, and Moi University pension scheme. Since the target population was very small (six pension schemes), the study adopted census approach where data was collected from all the schemes.

3.4 Data Collection

The study utilized secondary data between 1991 and 2005. The data covered a period of 15 years (1991-2005). To measure the impact of quantitative portfolio ceiling on financial performance, the study collected data for 10-year period prior and 5-year post implementation of the quantitative restrictions. Investments portfolio performance for the two cluster periods was then analyzed and compared. Data was collected from public financial statements of the retirement benefits schemes. Part of the information contained in these reports include assets, investments returns, financial ratios, and allocations to various investments assets classes (see Appendix I).

3.5 Data Analysis

Data analysis is the process through which raw data organized so that useful information can be extracted from it. The study analyzed data using both descriptive and inferential methods. The descriptive methods encompassed summary statistics such as means, standard deviation, minimum and maximum values as well as coefficients of Skewness and Kurtosis. Means and standard deviations of the return on investment was computed before and after the RBS investment guidelines. Inferential statistics for the study include correlation and regression analyses. The study utilized Stata software to analyze data. Correlation analyses indicate the existence of relationship

between dependent and independent variables and whether that relationship is significant or not. For regression analysis, the study sought to establish whether portfolio ceilings affect financial performance or not. In addition, the results indicate the direction and magnitude of the impact.

Multiple regression analysis equation for the analysis is expressed as:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \varepsilon$$

Whereby:

Y = Return on Investment

X_1 = Cash balance

X_2 = Fixed deposits

X_3 = Government security

X_4 = corporate bonds

X_5 = Quoted equity

X_6 = immovable property

X_7 = other investments

β_0 = Y intercept (constant)

ε = Error

B_1 - B_6 , are coefficients to be estimated

3.6 Diagnostic Tests

There are various challenges which could compromise reliability and validity of the estimates. These includes Multicollinearity, heteroscedasticity, and endogeneity. To ensure unbiased estimates, the study checked for the existence of these problems.

CHAPTER FOUR: FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents findings and discussions of the study. There are two main sub-sections in the chapter. Sub-section one discusses results of the descriptive statistics while the second sub-section presents inferential statistical results. These results are discussed using comparative approach. The comparison is drawn between the results of before the operationalization of portfolio ceilings and after the operationalization. The next sub-section presents descriptive statistical results.

4.2 Descriptive Statistics

In this sub-section, the study undertakes a comparative analyse of summary statistics for all the variables (both dependent and independent).The statistics discussed include the means of variables, standard deviation, minimum and maximum values. In addition, Skewness and Kurtosis coefficients are also computed. To begin with, Table 1 presents summary statistics of all variables before the enforcement of quantitative portfolio ceilings.

Table 1: Summary Statistics (1991-2000)

Variable	Obs	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
ROI	60	12.75	8.6232	3	46	1.7831	6.406
Cash	60	29.698	106.356	.0256	722.995	5.434	34.599
Fixed deposits	60	66.904	166.783	.0559	1017.13	3.907	20.407
Govn securities	60	657.281	1858.43	1.040	10684.64	3.918	18.847
Corp securities	60	42.939	127.461	.068	708.754	3.825	17.814
Quoted equities	60	286.441	855.504	.467	4796.906	3.864	18.154
Immovable properties	60	311.564	665.119	.317	3260.897	2.593	9.717
Other investment	60	49.469	116.711	-27.738	650.583	3.399	15.588

Source: Stata output, 2020

The statistics indicate that mean return on investment before enforcement of portfolio ceilings was 12.75 percent with standard deviation of 8.6232 and it ranged between a maximum of 46 and a minimum of 3 percent (Table 1). The statistics after enforcement of portfolio ceilings show an ROI mean of 7.567 percent with standard deviation of 2.812 (Table 2). The maximum value of ROI was 15 percent while the minimum was 4 percent. These results means that there was a higher ROI among the occupational retirement pension schemes before the enforcement of portfolio ceilings than after. This imply that the ceilings have reduced the earnings of these schemes to a greater extent going by the differences in the means of ROI.

Turning to explanatory variables, the study has found a higher cash balances in the period after the portfolio ceilings than before as reported by the means of Ksh. 106.456 million and Ksh. 29.698 million respectfully. This imply that the schemes hold more cash balances in the period under portfolio ceilings than before. This can be attributed to the restrictions imposed on portfolios whose aim was to protect the schemes from investing in risky portfolios and basically ensure sufficient cash balances for smooth payment of the pensioners. There was more investment in the fixed deposits under portfolio ceilings (mean=Ksh.277.319 million) than before the enforcement (mean=Ksh.66.904 million). Similarly, the mean of government securities (Ksh.3643.311 million) after the implementation of portfolio ceilings is higher than the one before (Ksh.657.281 million). This imply that most pension schemes found it more secure to invest in government securities under the portfolio ceilings regime.

Furthermore, the occupational retirement schemes invested heavily in corporate securities in the period after the implementation of portfolio ceilings with a mean of Ksh.235.058 million than the period before the enforcement of portfolio ceilings given the mean of Ksh. 42.939 million with a standard deviation of 127.461. The study reports similar findings with regard to quoted securities

where the means of Ksh. 1640.393 million, and Ksh. 286.441 million after and before the portfolio ceilings respectively are recorded. Accordingly, these pension schemes invested in other investments heavily in the period after portfolio ceilings (mean=Ksh.264.103 million) than the period before given a mean of Ksh. 49.469 with standard deviation of Ksh. 116.711 million. Nevertheless, findings show that the mean of immovable properties before the enforcement of portfolio ceilings was higher with a mean of Ksh. 311.564 million as compared to the mean after enforcement (273.593).

With regard to Skewness of the distribution, statistics in Table 1 show that all the distributions are positively skewed given the positive signs of the coefficients. For a distribution to be symmetric, the skewness coefficient should range between -2 and +2. This imply that only ROI was normally distributed in Table 1 and that all other variables are asymmetric. However, Table 2 indicates that all the variables are symmetric (normally distributed). Kurtosis measures how that tails of a distribution differs from normal distribution curve. For a normal distribution, Kurtosis coefficients range between -3 and +3. Based on the values in Table 1, the study reports that tails for all the distribution are highly and positively peaked. This indicates the presence of extreme values in the distribution. Nevertheless, the distribution in Table 2 indicate a relatively normal distribution, that is, the peak of the tails are generally very low in the period under portfolio ceilings.

Table 2: Summary Statistics (2001-2005)

Variable	Obs	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
ROI	30	7.567	2.812	4	15	.887	3.102
Cash	30	106.456	193.7198	.307	598.869	1.601	3.911
Fixed deposits	30	277.319	440.649	.672	1309.349	1.240	2.884
Govn securities	30	3643.311	7520.606	12.477	24327.73	1.901	4.866
Corp securities	30	235.058	500.985	.828	1613.754	1.914	4.890
Quoted equities	30	1640.393	3374.888	5.602	10922.02	1.900	4.863
Immovable properties	30	273.593	2283.515	3.808	7424.701	1.720	4.426
Other investment	30	264.103	457.688	.759	1481.304	1.635	4.196

Source: Stata output, 2020

4.3 Inferential Statistics

4.3.1 Correlation Analysis

The study conducted correlation analysis between the dependent variable (ROI) and all the independent variables to ascertain the nature and strengths of the correlation. Tables 3 and 4 represents the results for correlations before and after the enforcement of portfolio ceilings respectively.

Table 3: Correlation statistics (before Portfolio Ceilings)

	ROI	Cash	Fdeposits	Gsecur	Corsecur	Qsecur	Imvsecur	Otherinvest
ROI	1.0000							
Cash	-0.0805	1.0000						
Fdeposits	0.0457	0.2372	1.0000					
Gsecur	-0.0953	0.4679	0.6131	1.0000				
Corsecur	0.1057	0.4049	0.5385	0.9920	1.0000			
Qequities	-0.1084	0.4046	0.5377	0.9918	0.9998	1.0000		
Imvsecur	0.0153	0.6192	0.7655	0.8778	0.8183	0.8220	1.0000	
Otherinvest	-0.1170	0.4775	0.5909	0.9434	0.9394	0.9400	0.8384	1.0000

Source: Stata output, 2020

According to Table 3, ROI is positively correlated with fixed deposits, corporate securities, and immovable securities. In addition, there was a negative correlation between ROI and cash balances, government securities, quoted equities and other investment during the period before enforcement of portfolio ceilings among occupational retirement pension schemes in Kenya. With regard to the period after portfolio ceilings enforcement, the study finds that ROI was positively correlated to all the explanatory variables (cash balances, fixed deposits, government securities, corporate securities, quoted equities, immovable properties and other investment) as shown in Table 4. Concerning the size of the correlation coefficients, the study finds that the correlations are weak both before and after the enforcement of quantitative portfolio ceilings. Nevertheless, the correlation coefficients after portfolio ceilings enforcement appear to be relatively stronger.

Table 4: Correlation statistics (Under Portfolio Ceilings)

	ROI	Cash	Fdeposits	Gsecur	Corsecur	Qsecur	Imvsecur	Otherinvest
ROI	1.0000							
Cash	0.2424	1.0000						
Fdeposits	.2371	0.8983	1.0000					
Gsecur	0.2661	0.9377	0.8542	1.0000				
Corsecur	0.2658	0.9394	0.8419	0.9990	1.0000			
Qequities	0.2654	0.9380	0.8563	1.0000	0.9989	1.0000		
Imvsecur	0.2603	0.9747	0.9351	0.9790	0.9750	0.9796	1.0000	
Otherinvest	0.2485	0.9672	0.9448	0.9685	0.9622	0.9698	0.9964	1.0000

Source: Stata output, 2020

4.3.2 Regression Analysis

The aim of the study was to investigate the effect of portfolio ceilings on return to investments focusing on occupational retirement pension schemes in Kenya. The study employed ordinary least

square (OLS) regression to achieve this objective. Two regression equations are conducted with the first one using data before the enforcement of portfolio ceilings (1991-2000) and the second one utilized data covering the period after enforcement of the portfolio ceilings. The results of the regression analysis are presented in Table 6 and 7. Prior to explaining the results, diagnostic tests were conducted on the model just to make sure that results are not biased.

The first diagnostic test is that of multicollinearity which sought to establish whether the error term was correlated with explanatory variables. Multicollinearity results into spurious regressions. Variable inflation factor technique was adopted and the results are presented in Table 5.

Table 5: Multicollinearity test

Variable	VIF	1/VIF
Corp securities	1.24	0.10122
Quoted equities	1.24	0.80180
Govn securities	2.49	0.71899
Immovable properties	1.16	0.12214
Other investment	1.77	0.478288
Fixed deposits	2.71	0.114788
Cash	0.05	0.197933
Mean VIF	9.33	

Source: Stata output, 2020

Multicollinearity problem is termed present if VIF is greater than 10 or 1/VIF is less than 0.1. According to these results, the study rejects the null hypothesis of the presence of multicollinearity

given that VIF for all variables is less than 10 and consequently, $1/VIF$ is greater than 0.1 in all cases.

Secondly, the study sought to detect the presence of heteroscedasticity in the model. Heteroscedasticity refers to the situation where variances are not constant over time. The presence of this problem could lead to underestimation of p-values. The study adopted Breusch-Pagan test whose null hypothesis was that heteroskedasticity was present against the alternative hypothesis of the presence of homoscedasticity. With the $\chi^2(1) = 0.06$ and $\text{Prob} > \chi^2 = 0.8040$, the study rejected the null hypothesis.

Finally, the study sought to establish whether residuals were normally distributed. Residuals that are not normally distributed could lead to inaccuracies in the prediction of the dependent variable. Normality test based on Skewness and Kurtosis was performed whose results are presented:

Skewness/Kurtosis tests for Normality					
Variable	Obs	Pr (Skewness)	Pr(Kurtosis)	----- joint -----	
				adj chi2(2)	Prob>chi2
Residual	60	0.0000	0.0000	60.13	0.0600

Even though the tests based on Skewness, and Kurtosis indicate non-normal distribution, the joint test with p-value of $0.0600 > 0.05$, show that residuals are normally distributed.

The study presents the results of the regressions in Table 6 and 7.

Table 6: Regression (before Portfolio Ceilings)

ROI	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Cash	-.0557059	.0224275	-2.48	0.016	-.10071	-.0107019
Fixed deposits	.0420705	.0181562	2.32	0.024	.0785035	.0056375
Govn securities	-.0199431	.0184186	-1.08	0.284	-.0569028	.0170166
Corp securities	2.420841	.7535436	3.21	0.002	.9087454	3.932937
Quoted equities	.3310374	.0915683	3.62	0.001	.5147826	.1472922
Immovable properties	.0376397	.0105812	3.56	0.001	.016407	.0588724
Other investment	-.0045549	.031412	-0.15	0.885	-.0675877	.058478
Cons	12.41323	1.154135	10.76	0.000	10.09729	14.72917
Number of obs =	60					
F (7, 52) =	2.81					
Prob > F =	0.0147					
Adj R-squared =	0.1768					

Source: Stata output, 2020

Next, findings of the second regression are presented in Table 7.

Findings in Table 6 indicate that cash balances were negatively related to return on investment (-0.0557059, p-value=0.016). This means that during the pre-restriction period, cash balances held by the pension schemes had negative effect on the financial performance. This situation could occur especially when more assets are held in liquid form at the expense of investment. Similar results are reported with regard to government securities and other investments. Nevertheless, these coefficients are not statistically significant given that the p-values are greater than 0.05.

On the other hand, the study has found that the signs of both fixed deposits and corporate securities are positive and statistically significant. These means that before the enforcement of quantitative portfolio ceilings, investment in the fixed deposits and corporate securities led to an increase in the return on investments. Nevertheless, corporate securities have a much more impact (2.420841) relative to fixed deposits (0.0420705). Similarly, the study has established that both quoted securities and

immovable properties are positively related to return on investment with coefficients 0.3310374 and .0376397 respectively with quoted securities indicating a relatively higher impact. The study has failed to report significant results with regard to government securities during the pre-portfolio ceiling period.

Table 7: Regression (After Portfolio Ceilings)

ROI	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Cash	-.0334683	.0028156	-11.89	0.000	-.0393074	-.0276292
Fixed deposits	-.0105073	.0008941	-11.75	0.000	-.0123615	-.0086531
Govn securities	-.0020205	.0008812	-2.29	0.032	-.0038481	-.000193
Corp securities	.0095261	.01184	0.80	0.430	-.0150286	.0340809
Quoted equities	.0091155	.5080248	0.02	0.986	-1.044463	1.062695
Immovable properties	.0126032	.0006313	19.96	0.000	.011294	.0139124
Other investment	-.0156907	.0017544	-8.94	0.000	-.019329	-.0120523
_cons	6.902587	2.04889	3.37	0.003	2.65345	11.15172
<hr/>						
Number of obs =	30					
F (3, 22) =	12.81					
Prob > F =	0.0410					
Adj R-squared =	0.1281					

Source: Stata output, 2020

Findings according to Table 7 show that cash balances have a negative relationship with returns on investment (-0.0334683). The coefficient was also statistically significant given the p-value of 0.000. In addition, the study has established that both fixed deposits and government securities coefficient are negative and statistically significant. This imply that the quantitative portfolio ceilings introduced in the year 2001 have a negative effect on the pension's financial performance regarding investments into fixed deposits and government securities. The impact of fixed deposits (-0.0105073, p-value=0.000) is relatively higher relative to that of government securities (-0.0020205, p-value=0.032). Similarly, other investments have a negative and statistically significant relationship with returns on investment.

On the other hand, the results of the study revealed that immovable properties are positively related to returns on investment under quantitative portfolio ceilings. In addition, the results are statistically significant given that the p-value is 0.000, less than 0.05. Finally, even though both corporate and quoted securities are positive, their respective p-values show that they are not statistically significant. This imply that they have no effect on the returns on investment.

4.5 Discussion of the results

To discuss the results, the study begins by an analysis of the model fitness. The null hypothesis of the regressions was that the coefficients of explanatory variables are different from zero. Since the probability values of the F-statistic are less than 0.05 in the two regressions (see Tables 6 and 7), the study accepted the null hypothesis of model fitness. This imply that the two regressions are well fitted or the dependent variable was well predicted by the explanatory variables. The R-squared in the models explains the predictive power of explanatory variables. This means that in the prediction power in the first regression was relatively higher at 17.68 percent in relation to that of the second model which is at 12. 81 percent. Generally, these statistics imply that the prediction power of portfolios on returns on investments declined with the introduction of portfolio ceilings.

Turning to the individual explanatory variables, the study has established that cash balances had a negative effect on the returns on investments of the ORPS both before and after portfolio ceilings. This is given by the negative coefficients (-.0557059 and -.0334683 for before and after respectively) with p-value of less than 0.05. Cash balances are held by firms to facilitate daily operations. Key among these operations are office expenses, payment of staff and pensions for the retirees. This explains why the cash balances could not be linked directly to the returns to investment of the pension schemes.

With regard to fixed deposits, the study has established that portfolio ceilings have a negative effect on returns to investment. This is explained a change in the sign of the variable from positive

(0.0420705) before the enforcement of ceilings to negative (-0.0105073) after portfolio ceilings. In addition, p-values of the two coefficients are less than 0.05 meaning that, the findings are statistically significant. These results imply that the introduction of portfolio ceilings in the year 2001 changed fixed deposits investment in the portfolio mix for the worst. Similar findings were reported by OECD (2010) where restrictions on portfolio was observed as a barrier to portfolio diversification with an adverse effect performance. Nevertheless, this study focused more on portfolio mix and not fixed deposits in particular.

The results concerning government securities show negative results before and after the implementation of portfolio ceilings in Kenya. Nevertheless, the coefficient of the variable before the enforcement of portfolio ceilings are insignificant (p-value=0.284 >0.05). This means that restrictions on portfolios of the pension schemes, have a negative effect on the returns to investment of ORPS in Kenya. In addition, the introduction of portfolio ceilings in the year 2001 could be said to have restricted the pension schemes in investing in government securities.

The study has established that while investment in corporate securities by the ORPS in Kenya had a positive effect on returns on investment before portfolio restrictions, the ceilings adopted in 2001 have insignificant impact on the returns to investment. This is attributed to the fact that the p-value of the corporate securities after enforcement of portfolio ceilings is greater than 0.05 or greater than all confidence levels (see Table 7). The implication of these results is that portfolio ceilings limits investment of the ORPS.

Regarding quoted equities, the study has established positive effect on returns on investment both before and after enforcement of portfolio ceilings. However, just like corporate securities, the results for the second regression (after portfolio ceilings) are not statistically significant given the p-value of greater than 0.05. This imply that portfolio restrictions could have limited ORPS

investment in quoted securities and hence, insignificant contribution to returns on investment among the pension schemes.

The results for immovable properties show a positive and statistically significant effect on returns on assets both before and after the implementation of portfolio ceilings in Kenya. This is demonstrated by the positive coefficients and p-values which are less than 0.05. Nevertheless, the contribution of immovable properties on returns on investment after enforcement of portfolio restrictions is relatively lower (0.0126032) than that before the implementation (0.0376397). This implies that restrictions could have limited the pension schemes' investment in immovable properties.

Finally, the results for other investment indicate a negative and significant result for the period after the implementation of portfolio ceilings (-0.0156907, p-value=0.000). Findings for the first regression are not significant. The estimated results imply that the introduction of portfolio restrictions compelled ORPS in Kenya to limit investments in other assets and hence, negative contribution to returns on investment.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Chapter five of the study presents summary, conclusions and policy recommendations. Summary and conclusions are given based on the study objective. In addition, the chapter includes suggestion for area of further study.

5.2 Summary

The study sought to investigate the impact of quantitative portfolio ceiling on financial performance of pension schemes in Kenya, focusing on the occupational retirement benefits schemes. Secondary data was collected from six ORPS in Kenya. Both descriptive and inferential statistics were employed to analyze results. Two pooled ordinary least square regressions were conducted. The first regression analyzed the effect of quantitative portfolio on return on investment before the implementation of portfolio ceilings while the second regression estimated results for data collected after portfolio law came into existence in the year 2001. To ensure that estimated results are valid, the study conducted post-diagnostic tests on the model. These included normality, multicollinearity and heteroscedasticity. The study established that residuals were normally distributed and that the models were devoid of multicollinearity and heteroscedasticity problems.

Summary statistics based on the study objective indicate that restrictions on cash balances had a negative effect on financial performance of ORPS measured by returns on investment. This means that 5 percent cash balance ceiling influences financial performance of pension funds negatively. Having more cash balances as opposed to investing the cash could have a detrimental impact on the returns to investment among the pension funds in Kenya.

Similarly, the study has established that restrictions of fixed deposits has an adverse effect on returns to investment among ORPS in Kenya. Hence, capping of fixed deposits at 30 percent by the pension funds due to the introduction of portfolio ceilings has a negative impact on the financial performance of pension schemes. Portfolio ceilings on government securities was also found to impact returns on investment negatively. This is demonstrated by a negative and statistically significant coefficient.

Nevertheless, there was no impact of portfolio ceilings on the financial performance of ORPS with regard to corporate securities. In addition, the results with respect to quoted securities are not significant. This imply that the study failed to prove that restrictions on corporate securities have an impact on financial performance of ORPS in Kenya. Similar results are reported with regard to quoted securities where the coefficient is not statistically significant.

Concerning immovable properties, the study has established that portfolio ceilings have a positive and statistically significant impact. This means that capping immovable properties at 30 percent is productive with reference to financial performance. Finally, the results for other investment indicate a negative and significant results for the period after the implementation of portfolio ceilings.

Generally, findings of this study are consistent with other authors. For instance, Davis (2002) reported that portfolio restrictions limits investment of pension schemes which ultimately affects their financial performance. Similarly, a study focusing on OECD (2010) observed that portfolio ceilings have a negative impact on the performance of pension funds. However, these previous studies paid attention on the general investment and not individual components like the current study. In short, findings of this study are unique for the case of Kenya in particular.

5.3 Conclusions

Following the results and summaries, the study makes several conclusions. Firstly, the quantitative portfolio ceilings on cash balances, fixed deposits and government securities have adverse impact on financial performance of ORPS in Kenya. Secondly, the study concludes that portfolio ceilings on immovable properties has a positive impact on financial performance of ORPS in Kenya. Thirdly, the study concludes that portfolio ceilings on both quoted securities and corporate securities had no impact on financial performance of ORPS in Kenya. Finally, the study concludes that generally, quantitative portfolio ceilings have an impact on financial performance of retirement pension schemes in Kenya.

5.4 Recommendations

The study has found that quantitative portfolio ceilings have an impact on financial performance of ORPS in Kenya. Firstly, it is recommended that this law should be reviewed to ensure positive financial performance of retirement benefit schemes. Specifically, restrictions on cash balances, fixed deposits and government securities need a review to address the negative impact on financial performance.

Secondly, since the business environment is dynamic, pension scheme managers should be left to make investment decisions based on the prevailing economic environment. This recommendation will require competent fund managers.

Thirdly, the study has established that investment in immovable properties has a positive impact both before and after portfolio ceilings. Thus, pension schemes should be encouraged to enhance their investments in this portfolio. This will strengthen their financial performance.

5.5 Limitation of the Study

There are two key challenges that were encountered in the course of this study. First, the study was limited in scope such that only six occupational retirement pension schemes were covered. This was due to non-availability of data. Nevertheless, the study applied scientific techniques in analyzing data and hence, the results can be relied on.

Secondly, the study was limited to quantitative techniques. Mixed approach incorporating both quantitative and qualitative methods would have been a better way to enhance the validity of results through triangulation. Nevertheless, the study used diagnostic tests to validate the results. In addition, the results are supported by existing empirical evidence.

5.6 Suggestion for Further Research

The revelation that restrictions on cash balances has a negative impact on financial performance is ironic. Cash at hand facilitates day to day operations for better results and hence, a positive sign was expected. There is a need to explore this variable further.

In addition, the current study was limited to only occupational retirement pension schemes. A further study incorporating other categories of pension funds is necessary to establish if similar findings are obtained. This will help in making solid policy measures to affect the entire sector.

Furthermore, it will be critical to conduct another study with mixed methods, that is, to incorporate both qualitative and quantitative data. A part from the quantitative statistics presented in the current study, the opinion of the fund's managers will have added more weight to this findings.

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Appendix 1: Data Collection Tool.

Secondary data was collected on the following variables for the years 1991-2005

1. Name of the Pension Scheme.....

Variable	Value (Kshs.)
Cash balance	
Fixed deposits	
Government securities	
Quoted equities	
Corporate securities	
Immovable property	
Other investments	
Value of investment	
Annual Return on Investment (%)	