

**Influence of Pension Schemes Financing Structure on the
Performance of Pension Funds in Kenya**

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DECLARATION

This thesis is my own work and has not been presented for examination in any other University.

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DEDICATION

I dedicate this thesis to my parents, family and the Faculty of Economics, Accounting and Finance at JKUAT Westlands campus for being a strong pillar throughout my PhD course. I have been deeply humbled by the knowledge acquired and support accorded to during my studies at the university.

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ABBREVIATIONS AND ACRONYMS

AAER:	Accounting and Auditing Enforcement Release
BLUE:	Best Linear Unbiased Estimator
CBK:	Central Bank of Kenya
CMA:	Capital Markets Authority
CSPS:	Civil Servants Pension Scheme
CSS:	Civil Service Scheme
GAAP:	General Accepted Accounting Principles
GDP:	Gross Domestic Product
IMF:	International Monetary Fund
JKUAT:	Jomo Kenyatta University of Agriculture and Technology
NSE:	Nairobi Securities Exchange
NSSF:	National Social Security Funds
OECD:	Organisation for Economic Co-operation and Development
OLS:	Ordinary Least Squares
ORS:	Occupational Retirement Schemes
RBA:	Retirement Benefit Authority

ROA:	Return on Assets
ROE:	Return on Equity
SACCOs:	Savings Credit and Cooperative Societies
SPSS:	Statistical Package for Social Sciences
U.K.:	United Kingdom
U.S.:	United States
WB:	World Bank

OPERATIONAL DEFINITION OF TERMS

Accruals- refers to the change in non-cash net working capital less change in taxes payable and depreciation expenses. In accounting accrual is the recognition of income when earned and not when received and to recognize expenditure when incurred and not when paid. Accrued expenses are a benefit to the firm because it receives services and paid for them later (Artikis & Papanastasopoulos, 2016).

Adherence to Regulations regulatory controls comprise controls on corporate governance, financial reporting and disclosure of information, access to pension funds, investment of funds and running costs of schemes (Yermo, 2012)

Amount of Contribution- amount paid annually by both the employer and employee or the individual to the pension scheme for the purpose of future benefits. The employees' contributions are paid out of their salaries. This forms pool of funds for investment to earn returns (Omondi, 2008)

Financing Structure refers to the total financial mix of firm. It include both the long term finance (debt and equity) and the short term finance (short term borrowing and trade credit) the firm uses to finance both the permanent assets and recurrent assets and the day to day operations of the business (Anginer, Demirgüç-Kunt, Huizinga & Ma, 2017).

Performance provides an idea of how effective management is to use its assets to create revenue. ROA is shown as a proportion by dividing the annual income of a company by its complete assets (Bikker & Dreu, 2014).

Retained Earnings- relates to the share of trading earnings not distributed as cash dividends to the shareholders of the company but retained by managers for future business development and expansion (Dinayak, 2014).

Share capital- Investing money that in the normal course of business, unlike debt capital, is not repaid to investors. It reflects the risk capital staked by the owners by buying the common stock of a company. It is represented by the paid-up capital by the shareholders of the firm which remains with the firm throughout its life (Simon, Omar & Lazam, 2015).

ABSTRACT

Reports from Republic of Kenya show that pension schemes in Kenya are associated with loss of billions of money every year, which reveals a decline in performance of the firms. The decline in returns of pension funds leads to delay or non-payment to retirees thus hindering realization and achievement millennium development goals. The purpose of the study was to assess the influence of pension schemes financing structure on the performance of pension funds in Kenya. The study determined the influence of retained earnings, amount of contributions, accruals and share capital on the performance of pension funds in Kenya with adherence to regulations as the moderating variable. The study employed casual research design. The target population was 1308 pension schemes registered with the RBA from which a sample of 79 pension funds was selected. Data was collected from the annual financial statements of the pension funds filed with RBA. Correlation analysis was used to test the relationship between the independent variables and dependent variable. Regression analysis was used to test whether the study variables influence performance of pension funds. The study findings revealed that retained earnings and performance (ROA) are positively and significantly related ($\beta=0.06835$, $p=0.000$); amount of contributions and performance (ROA) are positively and significantly related ($\beta=3.01E-09$, $p=0.00225$); share capital and performance (ROA) are positively and significantly related ($\beta=2.47E-10$, $p=0.000$); accruals and performance (ROA) are positively and significantly related ($\beta=1.79E-08$, $p=0.0157$); and adherence to regulation and performance (ROA) are positively and significantly related ($r=4.29196$, $p=0.000$). Further the study findings revealed a statistically significant moderation effect of adherence to regulations on the influence of independent variables (retained earnings, amount of contributions and accruals) on performance. However, the moderation effect of adherence to regulations on the influence of share capital on performance was not supported. Based on the study findings, the study concluded that retained earnings, amount of contributions, share capital and accruals have a positive and significant influence on performance of pension schemes in Kenya. Further, the study concluded that adherence to regulations has a significant moderating effect on the relationship between financing structure and performance of pension schemes in Kenya. Based on the results, the study recommended that pension schemes in Kenya should seek to increase retained earnings. They should formulate strategies on how to increase the density of contributions that they receive from the contributors. The firms should find ways of shortening the cash conversion cycle and the receivable collection period. Further, the study recommended the need for pension schemes to adhere to the set regulations. The implication of the study is that financing structure plays a significant role in the performance of pension schemes in Kenya. Pension funds may make use of the findings in this study to make optimal finance policies. The regulators and other players in the pension industry will make reference to this study as they work to develop the industry and the economy as a whole. This implies that the study sets the stage for the review of the existing industry regulations and policies

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. They are also important contributors to the Gross Domestic Product (GDP) of countries and a significant source of capital in financial markets (Omondi, 2008). As at December 2011, however, pension managers lost Kshs 17 billion (\$200 million), the first drop since industry regulator Retirement Benefits Authority (RBA) was formed in 2002. The contraction resulted in the drop in the value of pensions assets from Kshs 420 billion (\$4.941 billion) in December 2010 to Kshs 403 (\$4,741 billion) in December 2011 (Soft Kenya, 2012). The industry 's average return on investment dropped to negative 9.9 per cent in the period. In 2009, the return stood at negative 4.28 per cent.

The sector includes the Kenyan RBA licensed pension schemes, which are 1,216 occupational pension schemes and 87 individual pension schemes (RBA, 2017) totalling to one thousand three hundred and eight (1,308). The schemes cover 15% of the workforce. Out of this the National Social Security Funds (NSSF) covers 67%, the Civil Service Scheme (CSS) 22%, private schemes 10% and individual schemes 1% (Soft Kenya, 2012). However, Kenyan pension funds' economic effectiveness, both public and private, has been subject to enhanced scrutiny.

Policymakers have continuously modified the financing structure (structure of capital requirements) for pension funds to reflect changing economic and financial conditions. Adequate financing structure guarantees that pension funds are permanent, provide cushion to absorb losses and impairment. Therefore, pension schemes should strive to maximize on the earnings to build an effective financial structure (Omondi, 2008). This research seeks to assess the role of pension schemes financing structure on performance of pension funds in Kenya.

1.1.1 Global Perspective of Pension Schemes Financing Structure

The view that pensions are debt-like is gaining ground in the investment community. Since pensions are the equivalent of debt, this is similar to a firm issuing a long-term loan and investing the money in equities (Cowling, Fisher, Powe, Sheth & Wright, 2019). This gearing on balance sheets to gain equity market exposure is not common outside of investment trusts. The evolution of financial structure of pension funds may be seen as a form of adaptation and improvement in the ways these functions are fulfilled under pressure from competitive forces. Financial evolution is seen as a form of “innovation spiral” as innovations drive the system towards greater efficiency (Cowling et al., 2019).

Although different financing and regulatory laws exist around the world, the economics of Defined Benefits plans are similar. Pension promises represent a debt owed by the firm to the pension plan beneficiaries. Pension liabilities are economic liabilities of the entity, not the pension fund, as the entity has to make good shortfalls in the pension plan. The pension represents a debt owed by the entity to the pension fund members. Although United Kingdom (U.K.) and United States (U.S.) laws require separate assets as security for pension promises, this is not a necessary requirement - indeed most defined benefit plans in continental Europe are not funded. The ultimate owners of the firm are the shareholders who own the net value after liabilities of the firm are met. In simple terms we have an economic contract between the shareholders and the pension scheme members (Cowling et al., 2019).

Mansour (2015) encourage a model that addresses moral hazard and adverse selection issues such that a company's oversight mechanism and ownership structure affects funding structure and company results. While exploring the impact of ownership structure on capital structure and corporate performance, Huang, Kabir and Zhang (2016) attempted to address the simultaneity between funding structure and corporate performance by implementing minimum squares in three stages. They discover that there is a positive association between greater ownership concentration and leverage.

Likewise, Yinusa, Somoye, Alimi and Ilo (2016) highlight the problem of simultaneity between funding structure and firm results while studying the U.S. banking sector. They claim that external equity agency costs are measured by the loss of firm value induced by managers' self-interest in optimizing their own utility functions at the shareholders' interest expense. They also state that the funding structure impacts the expenses of the organization and thus impacts the output of the company. Using information from Taiwanese companies, Pandey and Sahu (2017) discover that there is a curvilinear relationship between equity return and leverage ratio; it rises as the leverage ratio rises and then drops to elevated leverage ratios. Muritala (2018) evaluated the impact on firm results of the leverage ratio of Jordanian companies. Using return on investments and Tobin's Q as a performance measure, they discover that the structure of funding is negatively linked to firm performance.

1.1.2 Pension Schemes Financing Structure in Kenya

Alternative assets like private equity can increase yields from portfolios (Kaniu, 2014). They provide greater risk-adjusted yields over the long term and are less prone to short-term vagaries like inflation and fluctuating interest rates. There are two kinds of pension funds in Kenya: the first is the historically defined benefit scheme, where both staff and employer make donations to a fund with the employer carrying the ultimate investment and financial risk as he promises to pay a guaranteed benefit / return to the staff. The Defined Contribution Scheme is the newer and more common system with employers. Here staff and employers make joint contributions, but with the investment and financial risk borne by the staff thereby absolving the employer of any obligation to repair any deficits which may be caused by the occasional spell of poor yields on the investment markets. This has revolutionized the financing structures of pension funds causing more increase in members' contributions, guaranteed funds and increased use of trade credit (Kaniu, 2014).

Policymakers have continuously reviewed and modified the financing structure (structure of capital requirements) for pension funds to reflect changing economic

and financial conditions. Adequate financial structure ensures permanency and provides cushion to absorb losses and asset impairment of pension plans. Therefore, pension schemes should strive to maximize on the earnings to build an effective financial structure (Omondi, 2008).

The capital markets in Kenya have over the last few years been prosperous from the point of view of transactions, turnover and investment performance, leading to fairly strong cumulative returns over the last three to five years. However, with less than five listings on the securities exchange annually, fewer corporate bond issues and a monthly mid to long- term public debt auction, it has become more difficult for pension funds to profitably, invest these funds on a risk adjusted return basis so as to generate long term sustainable profits. Further, the fact that listed securities are not fully representative of the economy means the growth is derived from a less diversified sub set, thereby increasing systemic risk (Kaniu, 2014).

Pension funds are not the ' be all ' answer to this issue on the capital markets, but they provide an option in terms of the capacity to provide long-term, viable capital pools and receive a competitive return from them. There are some risks involved; there have been cases where private equity funds were either unsuccessful in raising funds, were unable to deploy resources in a timely manner into investment opportunities, and where they have managed, sadly, some have not done very well in these investments (Soft Kenya, 2012).

The sector consists of one thousand three hundred and eight (1,308) retirement schemes registered by the Kenyan RBA. It consists of 1,216 occupational pension schemes and 87 individual pension schemes (RBA, 2015). The schemes cover 15% of the working population, with NSSF taking 67%, CSS 22%, private schemes 10% and individual schemes one percent (Soft Kenya, 2012).

1.1.3 Performance of Pension Funds in Kenya

Since 2000, the autonomous RBA has regulated the pension fund schemes in Kenya, in line with the provisions of the RBA Act of 1997, which introduced regulation, security and structure to the pension fund sector. The RBA continues to work to

develop the sector and advise on pension policy changes from the government. The pension fund sector in Kenya encompasses four parts, namely NSSF, Civil Servants Pension Scheme (CSPS), Occupational Retirement Schemes (ORS) and Individual Retirement Schemes. Overall, the scheme is projected to cover 15% of the labour force and to have 18% of GDP in accumulated assets (Kakwani, Sun & Hinz, 2010).

The pension fund system includes an estimated 2 million employees leaving an estimated 5 million uninsured employees under any retirement plan, at least 10 percent of whom are at or near the retirement age (Kakwani et al., 2010). With regard to pension funds, it is important to establish adequate controls to ensure that all persons and entities with the fund's operational and supervisory responsibilities act in accordance with the goals set out in the by-laws and statutes of the pension entity (ur Rehman, Khan, Shah & Khan, 2018). These checks should cover all fundamental organizational and administrative procedures, including performance evaluation, compensation mechanisms, information systems and processes, and procedures for risk management (ur Rehman et al., 2018). Effective entity control mechanisms safeguard retirement fund members' rights and benefits.

Recently, a multitude of variables have complicated pension fund management, including stringent accounting principles, rigid compliance regulations, fresh advances in information technology, and stern penalties enforced by non-compliance governments (Nikpour, Bakhshinejad & Ajdar, 2017). Therefore, Nikpour et al. (2017) call for adherence to appropriate internal control processes characterized by adequate financial reporting to comply with the legislation on pension funds. Impavido (2010) indicates that to guarantee accountability of the pension fund, control systems should be frequently audited both internally and externally.

The Kenyan Pension Industry assets were estimated to be Kshs. 761.15 billion as of December 31st 2016. This represented a decline of 2.6% from 2015. This amount was composed of the Kshs. 700.29 billion held by the fund managers and insurance issuers, Kshs.61.83 billion internally administered by NSSF and an additional Kshs. 45.02 billion of property investments directly managed by scheme trustees. The assets under fund management included Kshs.79.6 billion of NSSF funds externally

managed by the 6 contracted managers (Organisation for Economic Co-operation and Development (OECD, 2017). The data provided here reveals that the performance of the industry has been undergoing serious performance problems which if not carefully handled; they can affect the success of the entire industry.

1.2 Statement of the Problem

The mortality risk of pensions is reflected by the fact that the amounts of payment to pension clients (retirees) in the future usually exceed the funding contributions and investment returns they receive, resulting in a “funding gap” International Monetary Fund (IMF, 2012). The longer the survival period of pension members after retirement, the more pressure of funding gap the pension funds would experience. The current trend in increasing life expectancy indeed presents a serious challenge not only for the pension industry but also for all sponsoring firms (Faccio & Xu, 2012).

Reports from Republic of Kenya show that pension funds in Kenya are associated with loss of billions of money every year relating to performance. Funds flow has typically been positive but with liquidity issues, portability and imminent retirement of a large cohort of members alters the scenario (Rok, 2014). Pension funds cannot meet their financial obligations when they fall due without incurring significant unexpected costs.

Pension executives lost Kshs 17 billion (\$200 million) as of December 2011, the first decrease since the establishment of the sector regulator-Retirement Benefits Authority in 2002. The loss led to the decline in the value of pension assets in December 2010 from Kshs 420 billion (\$4,941 billion) to Kshs 403 (\$4,741 billion) in December 2011 (Soft Kenya, 2012). During the era, the industry's average return on investment fell to negative 9.9%. The yield was 4.28 percent negative in 2009. Report from the World Bank (2013) related bad retirement fund yields to non-payments to retirees, hampering the accomplishment of the Millennium Development Goals. Could these phenomena of low return be ascribed to the financing structure of pension plans?

Studies that have addressed different aspects of pension funds include Meng and Pfau (2010) who noted that pension fund financial assets have positive impacts on stock market depth and liquidity as well as private bond market depth. Crose, Kaminker and Stewart's (2011) noted that pension funds' asset allocation to green investments remains low. The study confirmed that the main reason behind the low investment is partly due to a lack of environmental policy support, but other obstacles to investment include a lack of appropriate investment vehicles and market liquidity, scale issues, regulatory disincentives and lack of knowledge, track record and expertise among pension funds about these investments and their associated risks.

Locally, Njuguna (2011) indicated that pension governance is influenced by pension regulations, leadership, and membership age. Ngetich (2012) established that the fund governance exert a significant impact on the growth of the pension schemes. Despite the studies done on performance of pension funds, there are no studies that have attempted to establish the role of pension schemes financing structure on performance of pension funds in Kenya. Pension funds are a unique type of organizations because they hold long term liabilities which belong to beneficiaries. It is on this background that the current study assessed the influence of pension schemes financing structure on the performance of pension funds in Kenya.

1.3 Objectives of the Study

The main objective of the study was to assess the influence of pension schemes financing structure on the performance of pension funds in Kenya.

1.3.1 Specific Objectives

1. To assess the influence of retained earnings on the performance of pension funds in Kenya.
2. To examine the influence of amount of contributions on the performance of pension funds in Kenya.
3. To analyze the influence of share capital on the performance of pension funds in Kenya.

4. To establish the influence of accruals on the performance of pension funds in Kenya.
5. To determine the moderating effect of adherence to regulations on the relationship between financing structure and performance of pension schemes in Kenya.

1.4 Research Hypotheses

The research hypotheses were;

1. H_0 : Retained earnings do not significantly influence the financial performance of pension funds in Kenya.
2. H_0 : The amount of contributions does not significantly influence the performance of pension funds in Kenya.
3. H_0 : Share capital does not significantly influence the performance of pension funds in Kenya.
4. H_0 : Accruals do not significantly influence the performance of pension funds in Kenya
5. H_0 : Adherence to regulations does not significantly moderate the influence of financing structure on the performance of pension schemes in Kenya.

1.5 Significance of the Study

The findings of this study may be beneficial to the following groups:

The pension scheme firms may find the findings of this study useful since they will be able to design appropriate financing strategies. The use of appropriate financing strategies is likely to enhance sustainable growth and performance of the firms. The study findings may also benefit the members of the pension scheme firms. Adoption of proper financing structure will ensure that the firms have adequate funds to meet their members' financial needs. Members will also have confidence that their contributions are secure since the firms will be financially secure.

The RBA may also use the findings to gain an insight into the effect of financing mix as currently provided by the existing regulations so as to lobby for better laws and policies, and be able to effectively manage and regulate pension schemes in Kenya. The RBA officers may use the knowledge of the study when carrying out investigations on the performance of the pension funds. This would help them to make good judgments about the pension funds investing and financing activities.

The findings of the research may be a valuable addition to the body of knowledge. Future researchers and scholars may be able to make references as they dig deep in the field of finance. At the same time, this study forms a basis for other researchers to identify existing research gaps and addressing them.

1.6 Scope of the Study

The study assessed the influence of pension schemes financing structure on the performance of pension funds in Kenya. The key variables included: retained earnings, amount of contributions, share capital, accruals and adherence to regulations. According to the RBA (2017) there are 1308 registered pension funds in Kenya. The target population consisted of all registered pension schemes. Secondary data was collected from the annual financial reports and other relevant reports of pension funds registered with the RBA covering a period from 2012 to 2015. The choice of the period from 2012 to 2015 was based on availability of data. The sample was selected out of a target population of all registered pension funds in Kenya with the RBA by 2015, which has been in existence for at least 10 years.

1.7 Limitations of the Study

The study was limited to only pension funds registered with the RBA. The study used secondary, historical accounting data which is also subject to manipulation by dishonesty managers to paint a good picture of financial performance. To mitigate this, the researcher collected secondary data from the audited annual financial statements of the pension funds filed with RBA. Audited financial statements are certified by the auditors that are true and fair. Access to certain reports was restricted. This was overcome by presenting an introductory letter obtained from

Jomo Kenyatta University of Agriculture and Technology (JKUAT) detailing the purpose and the confidentiality of information provided.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

A review of both theoretical and empirical literature on financing structures and firm's performance was presented. The chapter starts by looking at the theoretical literature review where the theories that anchor the study namely; the theory of financial intermediation; the pecking order theory; the firm growth theory; the finance theory; and the institutional theory were discussed. The chapter further presents conceptual framework, empirical literature review, critique of existing literature and the research gaps. The chapter presents the linkages between theoretical and empirical literature to establish the existing relationships among the variables. The chapter lastly presented the chapter summary.

2.2 Theoretical Review

A theory is a set of statements that explain phenomena or are endorsed by proof to explain certain phenomena. Theories provide in-depth explanation of phenomena occurring (Kombo & Tromp, 2009). Thus, the theoretical review helped the researcher clearly understand and to see the relevance and relationship among independent, dependent and moderating variables of this study. The theories examined and informed the researcher were: the theory of financial intermediation; the theory of pecking order; the theory of firm growth; the theory of finance; and the theory of institution.

2.2.1 The Firm Growth Theory

Penrose (2009) introduced the firm growth theory and highlights a company's growth or decrease as a consequence of corporate management choices that impinge on development factors such as funding choices, investment choices, dividend policy and corporate governance. Business is growing for a number of reasons including taking advantage of a market gap, gaining a competitive advantage over others and

winning higher market shares. The theory is of the opinion that two kinds of company development exist; inner and external growth.

In-house development is typically a slower method, according to the theory, and can be accomplished by requesting shareholders to add more assets or plugging earnings back into the company. External development, on the other side, can be accomplished through external financing or through mergers and acquisitions (Rangongo & Ngwakwe, 2018). In order to fund development, this strategy tends to depend on introducing external finance into the company and can therefore lead to a declining gearing situation. Business change therefore requires to be closely managed from the viewpoint of human resource management (Agulanna & Madu, 2013).

This theory is important to the research as it explains both inner and external sources of company development. In this study, retained earnings can be classified as an internal source of business growth. Companies are using retained earnings as an inner source of finance, resulting in increased company development. The company growth theory therefore advances the variable retained earnings in this research.

2.2.2 Theory of Financial Intermediation

Scholtens' theory of financial intermediation (2003) tends to concentrate on receiving deposits and issuing loans as financial intermediaries, a subset of capital and money markets operations (Robu & Sandu, 2011). A wider canvas is required to understand the changing role of pension funds as financial intermediaries and their impact on financial markets. Financial intermediation theory, which focuses primarily on banks, considers actions such as deposit taking and loan issuance as defining the function of financial intermediary (Robu & Sandu, 2011). Expanding the concept of economic intermediation to the operations of pension funds,

Consequently, pension funds play a financial intermediary function by investing cash accumulations in a multitude of financial resources (e.g. corporate equity, government bonds, actual estate, corporate debt, overseas tools, and deposits) (Robu & Sandu, 2011; and Rodriguez, 2014). An appropriate framework for evaluating the

function of pension funds as intermediaries is through account of the financial system's general tasks. This offers a foundation for assessing the extent to which pension funds act as agents of economic change by more effectively fulfilling the tasks of economic structures than options (such as banks and individual investors).

In this research, the theory is essential as it describes the function of financial intermediaries that are component of pension funds. Theorist argues that one of economic intermediaries' main roles is to accumulate members ' resources, which are then invested to improve firms' yields. Therefore, in this research, the theory of economic intermediation advances the variable amount of contributions.

2.2.3 Pecking Order Theory

The Pecking Order Theory by Myers and Majluf (1984) stipulates that companies tend to depend on inner funding sources and prefer debt to equity if external funding is needed (Jibran, Wajid, Waheed & Muhammad, 2012). According to Nakamura, Forte, Martin, Manoel, Da Costa, Castilho and DoAmaral (2007), this order is based on the consideration that internally produced funds do not have transaction costs and on the reality that issuing fresh bonds tends to indicate favorable future picture about the business, while issuing fresh stocks tends to signal negative information, on the contrary.

External source of funds is less desirable because the information asymmetry between executives and prospective shareholders indicating that the external sources of funds are mispriced or inferior to the point of information asymmetry (Jibran, 2012). According to Acaravci (2015), this theory explains the decision of the company to maintain a reserve quantity in money or other types of economic slacks in order to prevent the absence of funds and the need for external sources.

According to this hypothesis, not only directors of less lucrative firms but also directors of more lucrative firms would choose a more aggressive working capital strategy, pushing for reduced levels of current assets and greater levels of funding through suppliers, in a manner that would provide the necessary resources internally to fund their firms and prevent debt and equity issuance. The theory informs the

share capital variable in this study, which is an internal source of finance of pension funds

2.2.4 Finance Theory

According to Aksoy's Finance Theory (2005) the study of finance has three primary themes: capital budgeting, capital structure and management of working capital. Decisions on capital budgeting and capital structure mainly relate to funding and long-term investment management. Financial choices on working capital, however, are mostly linked to funding and managing short-term investments that simultaneously form both current assets and current liabilities. Short-term financial management is often referred to as the management of working capital.

Working capital is a significant external source of capital for small and medium-sized and high growth companies in particular. These companies have comparatively restricted access to capital markets, and by short-term borrowing and trade credit tend to overcome this complication. Such firms' working capital situation is not only an inner company-specific issue, but also a significant risk indicator for creditors. Higher working capital makes it simpler for a company to fulfill its short-term commitments. This results in a rise in borrowing capacity and a reduce in default risk, resulting in a reduction in capital cost and an increase in firm value. Efficiency in working capital leadership therefore impacts not only short-term profitability and economic performance, but also long-term economic performance, i.e., firm value maximization (Zariyawati, Annur & Pui-San, 2016).

The theory is important to this research as it describes working capital as a source of capital, where accruals are component of working capital. Accruals are regarded as part of the pension fund funding framework in this research. Thus, in this research, the theory advances the accruals variable.

2.2.5 Institutional Theory

Scott's (2008) institutional theory stipulates that institutions are formed, renewed, preserved and altered by behavior alone. The institutional framework for pension

fund investments has acquired a great deal of scholarly focus in terms of retirement fund governance (Asch, 2019; Blitzstein, 2016; Ambachtsheer, Capelle & Lum, 2008), pension fund investment legislation and modifications in the formal-political scheme (Clark, 2017). The same applies to investment decision-making of pension funds, investment policy and regulations and corporate commitment methods in different social science.

The theory is important to this research because it emphasizes institution-specific laws. In this study, adherence to regulations is used as a moderating factor on the interaction between pension funds' financing structure and performance. Thus, the theory advances the adherence to regulation variable in this study.

2.3 Conceptual Framework

A conceptual framework is an attempt to define in a diagrammatical form the nature of research (Roumpakis, 2014). The study sought to assess role of pension schemes financing structure on performance of pension funds in Kenya. The independent variables in this study were; retained earnings, amount of contributions, accruals and share capital with adherence to regulation as the moderating variable. The study, therefore, sought to establish the impact of the independent variables on the dependent variable which is performance of pension funds.

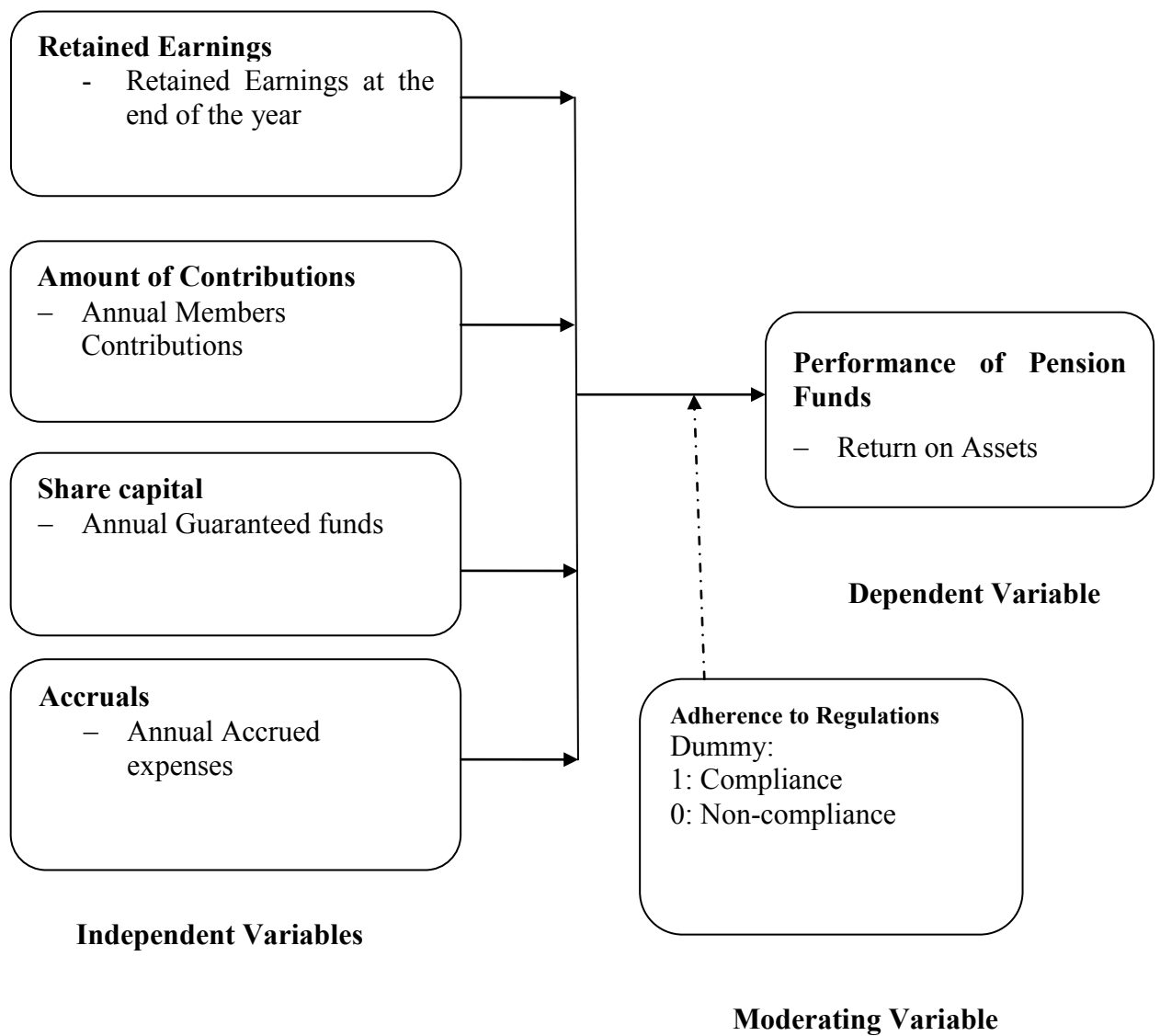


Figure 2.1: Conceptual Framework

2.3.1 Retained Earnings

Retained earnings refer to the portion of firm's returns that is not distributed as cash dividends but retained by managers for the company's future development (Dinayak, 2014). Campbell (2012), notes that the main advantage behind earnings retention is that the more the company retains the faster it has chances for growth through taking advantage of opportunities faster than its competitors. Retained profits are generally reported on the balance sheet under shareholders' equity (Dinayak, 2014). The accumulated retained earnings, calculated by adding net income to (or subtracting any net losses from) starting retained earnings and subtracting any dividends paid to shareholders, are also associated with periodically retained earnings (Dinayak, 2014).

Retained earnings can also be expressed as a percentage, frequently referred to as a plowback ratio or retention ratio. The retention rate is also referred to as an organization's retention rate (Orwel, 2010). Chasan (2012) indicated that in determining the ratio or income to be maintained, there is always a dispute. While the company's executives want a greater income retention ratio, the company's shareholders would believe otherwise as the greater the plowback ratio is the more uncertain their control over their shares and finances is.

According to Orwell (2010), retained incomes are an organization's inner sources of finance and have many benefits. Maintained income is easily accessible for use as an inner source. Also, retentions are cheaper than internal equity, do not dilute ownership, and have a favorable connotation as stakeholders perceive future investment possibilities for the business. They have demerits, however, because retained earnings are a restricted source of funding, and the fact that they have a high opportunity cost as they are a foregone dividend by equity owners (Chasan, 2012).

Retained earnings are described as the part of net profit after tax that the company maintains rather than distributing as dividends to its shareholders. They are revenues retained by the company in its activities for investment and therefore not paid as dividends (Campbell, 2012). These retained income contribute to the ownership of the net assets of the company by the stockholders. The company's value can be

greatly affected by the earnings retained. Retained profits are evaluated by the retained income change percentage divided by total assets.

Retained profits determinants are the variables that boost or reduce the company's retained income. Different scientists have recognized the company features such as company size, tangibility of assets, profitability, dividend payout, leverage, growth possibilities, and company risk and discretion as determinants of retained earnings. According to Bhatia and Sitlani (2016), the company's saving percentage relies on the company's type, size and sector. Large businesses, for instance, have a greater savings percentage than tiny businesses. Thirumalaisamy (2013) quoted retained earnings as a significant financial source for business development. This is because with retained revenues there is no transaction or bankruptcy cost. Thus, a company's prospective growth possibilities require a higher demand for internally produced resources.

As a source of funding for investment proposals, retained income varies from other sources such as debt, preferential shares, and equities. The use of debt is linked to a contractual obligation to pay the providers of resources a fixed interest rate. The main sum should also be reimbursed at some predetermined date. The use of preferential stocks also refers to an almost comparable type of stipulation. In the case of ordinary shares, although there is no provision for any pre-determined dividend payment, yet a certain rate of dividend will be expected by the shareholders. Legally there is no obligation for a firm to pay a return on retained earnings (Javed & Shah, 2015).

2.3.2 Amount of contributions

A pension plan is a retirement plan in which the employer and the employees of an entity make contributions for the future benefit of the workers in a pool of funds set aside. The funds are managed on behalf of the staff, and the investment income help support the life of the employees upon retirement. Unlike a provident fund, the employer usually manages a pension fund, not the government. Some pension funds may allow individual respondents to select investment and contribution quantities,

while most provident funds have mandatory contributions and investments centrally. Some provident fund accounts, unlike Social Security, are kept in individual names, not pooled into a single trust fund account (Iyengar & Ma, 2016).

The quantity of contributions to a pension fund is very important in determining its effectiveness, according to Lungu (2011). If a pension fund has many contributors who have not reached the retirement age, it means they will have more economic resources that can be channeled into business operations and thus earn more revenue. Also a very significant determinant of their results is the density of contributions that pension funds receive from contributors. If a fund has many contributors who can channel enormous resources into the system, then there will be enough money to invest and that will help the fund gain better income. The opposite is also probable to occur if contributions received from contributors are not big enough to allow the fund to enter into any significant investment in assets (Okeyo, 2016).

Koech (2012) explored the factors influencing the development of Kenya's pension schemes; the National Social Security Fund case. The goal of the research was to identify factors influencing development in the pension sector in which management policies, scheme financing, investment and the legal framework are carefully examined. The research discovered that the fund relies solely on contributions from employees and earnings from investment, all of which have legal constraints.

The quantity of contributions by employers and staff towards their pension, such as the National Providence Fund, provides access to long-term funds and is in a good place to finance housing growth (Muniu, 2014). Okeyo (2016) argues in agreement with the above position that pension funds are a major supplier of long-term capital investment finance in advanced societies.

2.3.3 Share Capital

Share capital is that portion of the shareholder's equity that the company must have to support all the hazards it takes, including lending, trading (FOE, 2009). It mainly comprises the company owners or shareholders' paid-up equity capital. Share capital is also known as Tier 1 capital and is the sum paid up to the company's inventory (or

shares) initially purchased, retained profits (subtracting accumulated losses) and other qualified Tier 1 capital securities. It's that component of the equity that would be hard to distribute to the shareholders and serve as the bank's continuous assets. Core capital offers a corporate cushion against corporate shocks like credit defaults, foreign exchange losses, and interest rate shocks. The capital also sends a signal that the financial institution is well ready to conduct more business Kenya Central Bank (CBK, 2005).

The notion of capital structure as used in Kenya relates not only to decisions concerning capital structure (or the blend of debt / equity), but also to the type of securities used to structure equity and debt affected by the external context. In other words, it tries to comprehend why certain debt and equity decisions are made (strictly speaking, capital structure), while observing ownership structures and debt structures. For this reason, some writers do not think that analyzing only capital structure as a mixture of debt and equity is justifiable, as it is strictly linked to other elements of equity and debt structure (Oyier, 2016).

Capital (equity and long-term debt) together with short term deposits and borrowings constitutes a source of funds for the bank. Onchong'a, Muturi and Atambo (2016) argued that bank returns are influenced by macroeconomic factors, implying that loan expansion is boosted by macroeconomic policies that encourage low inflation and stable production development. Capital adequacy measures provide important data on the yields of a firm, according to Christian, Arnold and Sorensen (2013), while some of the individual factors representing asset quality and income are informative.

Equity capital is that portion of the debt-free capital that constitutes a company's ownership stake. Therefore, it is that sum contributed by the owners that usually involves common share capital, preferential capital, retained income, and reserves. Like debt suppliers, equity suppliers also receive dividend-related returns from the company's earnings (Titman et al., 2011).

Irwin and Scott (2010) states that finance can be categorized based on a variety of sources, including share capital, savings, bank loans, loan finance. Deakins et al. (2010) observed that the source of the company's finances can generally be categorized as inner (from within the company) and external (usually from outside the company).

Share capital is commonly measured by the Book value which compares market of the shares as compared to firm value all as indicated in the financial reports (Phylaktis et al., 2010). The above is done in ratio form by calculating price per share over share capital value. The value of capital refers to the difference between assets book value and total value to all financial obligations commonly known as liabilities and then it is divided over the outstanding share capital shares as indicated by the statement of the financial position (Sullivan & Steven, 2003). Thus, from the above argument, the share capital net book value is equated to the equivalent value of remaining assets; this goes a long way in giving the net worth of the enterprise in case there is need for liquidation (Oladeji, et al., 2015).

2.3.4 Accruals

Accrual reflects profits and expenses that are recorded as current assets and current liabilities respectively on a company's balance sheet. However, if they are accounted for based on accrual accounting giving rise to receivable accounts, accounts payable and interest costs (Hribar & Yehuda, 2015), they have an effect on the company's revenue and assets. Accrual notion is the most basic accounting principle that involves acknowledging and recording income when it is earned, not when it is received in money, and recording expenses when it is incurred, not when it is paid ((Artikis & Papanastasopoulos, 2016).

GAAP enables accrual (and not money) preparation of financial statements only. This is because revenues and expenditures are recorded in the period, they relate to under the accrual notion and not when they are received or paid. Applying the accrual notion outcomes in precise reporting of net income, assets, liabilities and retained earnings that enhances the assessment of the economic performance and

economic position of the company over distinct periods Mean forecast mistakes are less when earnings are disaggregated into cash flow and significant accrual parts; average forecast mistakes are less when profits are disaggregated into cash flow and complete accruals. These results indicate that: if the details of the equity value forecast error distribution are concerned with mistakes, then income should be broken down into cash flow and significant accrual elements; otherwise income should only be broken down into cash flow and complete accruals. It is not expensive to impose a LIM framework; the assessment of abnormal income, accruals, accrual elements, equity book value and other data differs considerably across sectors ((Artikis & Papanastasopoulos, 2016).

Accruals also comprise the recognition of revenue adjustments in the financial statements of the firm. Therefore, if money is not received, the income must be acknowledged on the declaration of income and the balance sheet. It also acknowledges costs linked to the acknowledged income, so the financial statements entries match these accrued income and expenditures. For example, an employee bonus is a business expense. However, I do not pay the bonus in the year earned and it is paid in the year that follows, this is an accumulated cost for the business. The firm should record the bonus as a cost in the financial statements of the year earned (Hribar & Yehuda, 2015). Spontaneous sources of funding are accounts payable and accrued expenses. The company obtains and subsequently pays for products and services.

2.3.5 Adherence to Regulations

Regulatory controls comprise controls on corporate governance, access to pension funds, investment of funds and running costs of schemes. The management of pension systems has become more structured and organized since the Retirement Benefits Act and other laws came into force (Owinyo, 2017). However, there is doubt whether this has resulted in an enhancement in the financial results of the pension schemes. This is because the regulations also resulted in some constraints on pension scheme activities and an increase in administrative expenses. It is the

performance that determines a pension scheme's economic health and its capacity to pay all obligations as and when they fall due (Owinyo, 2017).

Research has shown that there has been financial performance improvement of occupational pension schemes during the period which the laws were in place. This shows that the laws had created positive impacts (Owinyo, 2017). Regulatory checks have an important connection to the development of pension systems, according to Kipkoech (2012). This implies that regulatory checks on pensions lead to enhanced economic results on retirement schemes development.

Further, Kipkoech (2012) states that reducing the benefits processing period, providing relevant education to the trustees, maintaining an appropriate internal control system, communicating regularly with beneficiaries, defining the roles of the trustees clearly, regulating the fees charged by the service providers, controlling default risk on the part of the contributors and implementing investment strategies are major factors that influence the financial performance and growth of individual pension schemes in Kenya.

2.3.6 Performance of Pension Funds

An organization is said to be well performing if it is meeting its goals and objectives effectively and efficiently. The main goal of pension scheme is to make payments to retirees on timely basis and meet other obligations as when required. This means that pension funds must generate enough returns to cover their operating costs and plan promises.

Pension funds are a set of benefits payment promises out of the plan assets that are protected by property rights. Pension is defined as an amount of money paid regularly by the state or by trustees of a scheme to an employee upon normal or ill-health retirement. In a study by Mghali (2013), it was established that firms should operate pension schemes where the employer contributes a certain amount together with the employee contribution and all this be invested by trustees who should manage and control the fund.

Pension funds are playing an increasingly significant role as both channels for retirement savings and as intermediaries in both money and capital markets. This combined role makes them a major concern for governments and other regulators from a variety of perspectives. Pension fund schemes, however, are by their nature a major source of conflicts of interest arising between the fund administrators and the ultimate beneficiaries of the fund. Pension funds, therefore, require a set of internal controls and external regulations to ensure that they are operated and managed in the best interest of their beneficiaries (Mugweru, 2011). Studies on the performance of pension funds use financial ratio analysis (Bikker & Dreu, 2014).

According to the study by Rodgers and McFarlin (2017), profitability ratios are often held in a high esteem as the measures of credit worthiness in banks, since profitability is associated with the performance of management function. Return on Equity (ROE) and Return on Assets (ROA) are the most commonly used ratios, and the quality level of ROE is between 15% and 30%, for ROA is at least 10%.

The study by Sharifi, Haldar and Rao (2019) indicated the purpose of ROE as the measurement of the amount of profit generated by the equity in the firm. It is also mentioned that the ROE is a measure of the ability to generate profit from equity. This strength is related to how well the assets are utilized to produce the profits as well. The efficient use of assets is significantly related to the amount of returns that the company generates for each shilling of equity.

2.4 Empirical Review

2.4.1 Retained Earnings

Thuranira (2014) examined the effect of retained earnings on stock gains of the companies listed at the Nairobi Securities Exchange. The study used a descriptive study design and used secondary data obtained from Nairobi Securities Exchange and the listed company's annual reports for the period 2009 to 2013. The study findings showed that a simple linear regression model describing the relationship between stock gains and retained earnings was statistically insignificant since the obtained P-Value was 0.361. Also, the results indicated that the Multiple Linear

Regression model which included the control variables was statistically significant since the obtained P-value was 0.000. The obtained F-test statistic supported the stance by the P-value. Nonetheless, in both cases, the results indicated that there exists a very weak and insignificant relationship between retained earnings and stock gains and the relationship is inverse since the coefficient corresponding to retained earnings in the model was always negative. Also, P-value corresponding to retained earnings in the model was 0.812; which was larger than 0.05 indicating that Retained Earnings was an insignificant predictor of Stock gains. Therefore, the study established that there is a very weak (insignificant) inverse relationship between retained earnings and stock gains.

Edom and Aganyi (2015) research checked the influence of retained profit on corporate performance of Niger Mills Company Ltd Calabar-Nigeria. The research examined the importance of retained profits as an alternative source of financing the activities of a corporation. The study findings showed that the future earnings capacity of Niger Mills Ltd. depends on its retained profit. It was also revealed that accumulated profit retained in the business has the capacity of increasing future earnings. It was therefore concluded that, corporate bodies should always retain profits in their business rather than distribute all of it to shareholders as cash dividend. Hence, it was recommended that corporate entities should always retained profit in their business if they have to gain a competitive edge over their competitors. Also, that policies should be put in place by corporate bodies where by a high retention percentage of net profit is retained in the firm.

Ekwe and Inyama (2014) examines the co-integration, magnitude and strength of the relationships between corporate retentions as proxy by retained earnings and some key financial performance measures, in the Nigeria manufacturing sector. Results showed that a strong relationship (about 77%) exist between retained profits and net asset value per share. Also long run relationship exists between retained income, and the rest of the variables implying that, if the retained earnings are properly invested, the returns will enhance growth, development and expansion of the firms while the financial performance indicators will serve as predictors to the right levels of

retained earnings and investment which could guarantee good base line without incurring the opportunity cost of excess liquidity.

Thirumalaisamy (2013) evaluated the relationship between retained profits and firm growth. The study used a descriptive research design. The research shows that growth of corporate firms in India is substantially financed by retained earnings and that there is no transaction and bankruptcy costs associated with retained profits which made it a significant internal source of finance for firms. When a firm has potential growth opportunities, there tend to be greater demand on internally generated funds accumulated through retentions.

Their findings show that across the classifications of sample companies cash flow and dividend are found to be the most influencing variables on retained earnings and firms with low investment opportunities for growth and expansion prefer to distribute much of their earnings as cash dividend. They emphasized that potential investment opportunities are likely to arise far off in the future for these firms. This implies that profit, if retained, remains unutilized for long time or utilized in short-term investment opportunities which would yield low profits on investment and such companies would tend to distribute the earnings as cash dividend and raise capital whenever needed. Hence, they concluded that the level of profits retained is very much influenced by the growth rate of the firms.

Khan (2015) studied the Determinants of Share Price Movements in Bangladesh with emphasis on cash dividends and retained profits. The research seeks to establish the relative importance of dividends, retained earnings, and other determinants in the explanation of share prices in Bangladesh with particular share price of the companies associated with Dhaka Stock Exchange, an emerging capital market of Bangladesh. The study found that cash dividends, retained profits and other determinants have dynamic relationship with market stock price.

2.4.2 Amount of Contributions

A pension fund's main role is to invest the accumulated pension contributions as properly and as optimally as possible while complying with the law. In terms of pension contributions, the Danish pension fund industry manages a big quantity of assets that corresponded to 43.20% of Danish GDP in 2009 (OECD, 2017). A research by Andersen (2015) revealed that by 2045, the Danish Economic Council estimated that 50 percent of all pension payouts would come from savings in personal retirement.

Thus, the future prospects for welfare and consumption as a retired Danish pension contributor depend on the capacity of the Danish pension fund sector to obtain high performance investment portfolios. The research also noted that it is the duty of the pension fund industry to manage the assets of the pension contributors, which is a major obligation, and it may not always be treated appropriately from the point of perspective of the pension contributors.

Over time, this has resulted to a tightening of laws limiting pension funds' liberty of motion in terms of their investment policies. Such law is in place to safeguard pensioners. Due to chosen investment policies and legal limitations on portfolio management, the main role of a pension fund is to invest contributions as optimally as possible. Portfolio management is described by investments in national and foreign asset markets, with the goal of providing appropriate returns on investment at an appropriate rate of risk to finance the consumption requirements of retirement pensioners (Andersen, 2015).

Also, a very significant determinant of their results is the density of contributions that pension funds receive from contributors. If a fund has many contributors who can channel enormous resources into the plan, then there will be enough money to invest, which will help the fund gain better income. The opposite is also bound to occur if contributions received from contributors are not big enough to allow the fund to enter any significant investment in assets (Okeyo, 2016). The amount of contribution received during the year was used as the measurement.

Oluoch (2013) determined Kenya's performance determinants of pension schemes. The research was conducted at aggregate level on Kenyan pension systems using annual fund value, assets, age, contributions and returns information. The information was from 2000 to 2012. Time series regression analysis was used as the independent variables to determine the connection between yields as the dependent variable and fund value, property, age, and pensioner contributions. The research discovered a powerful beneficial connection between investors ' age, measured by Kenya's domestic life expectancy, suggesting that longer life expectancy had a beneficial impact on yields. However, poor beneficial relationships between pensioners ' returns and fund value, assets, and contributions were poor, indicating that fund values, assets, and contributions were not used to generate revenue for Kenya's pension schemes.

Koech (2012) investigated the factors affecting growth of the Retirement Schemes in Kenya: a case of National Social Security Fund. The study objective was to establish factors affecting growth in the pension industry where management policies, funding of the schemes, investment and the legal framework are closely looked at. The study found that the pension fund only relies on members contributions and investment income, all of which having legal limitations.

Based on the findings, the research recommended the need for intensive and coordinated membership drive to promote the existing products and develop the new ones. There is needs to put more effort in employing the best systems in its operations, the best investment policies, management practices as well as employing good corporate practices in all its aspects of operations. Besides, the Fund to refocus its business strategies and continuously monitor through constant reviews and employing of best market practices in its operations. Lastly, there is need to explore ways of overcoming the legal challenges on retirement schemes through amending the operating laws and frameworks to allow for flexible but prudent investment streams that that makes them equally competitive as other financial institutions.

2.4.3 Share Capital

A report on Guaranteed Investments by Old Mutual (2014) in South Africa revealed that the core capital growth fund is a long-term investment portfolio aimed at providing substantial guarantees for steady growth. The underlying assets are invested in a portfolio composed of a balanced combination of equity, interest-bearing assets and assets with higher weighting of asset classes that are expected to deliver excellent actual returns over time. The returns on investment gained on the underlying portfolio are smoothed and passed on to investors through a final bonus declared monthly in advance. Although the smoothing method has an inherent degree of stability, the bonus rate may go up or down relative to the investment results of a specific month. The bonus rate is proclaimed gross of investment fees and pension fund tax. The 100% guarantee option is completely guaranteed, i.e. it guarantees all assets and bonuses (Old Mutual, 2014).

The Consolidated Act No. 1017 of Global Denmark Translations (2007) revealed that the pension fund's capital requirement is the biggest requirement of the solvency requirement and the minimum requirement for capital. The base capital, plus the decreased extra capital, is the reduced core capital. The base capital is calculated on the basis of the pension fund's own funds, calculated on the basis of the same principles as those applied in the pension fund's annual financial statements. Core capital shall exclude any form of tax that may be foreseen at the time the amount is calculated or adjusted adequately to the extent that taxes reduce the amount that may be used to hedge risks or losses. Pension funds' key capital consists of own resources and the value of tax assets as they would be in an administrative position. Core capital is decreased by the value of all intangible assets and the value of tax assets (Global Denmark Translations, 2007).

In analyzing the impact of pension funding on state government finances, Giertz (2011) discovered that the indirect impacts of capital gains on state finances through the development and decrease of state pension funds had an even higher, but ignored, impact on countries' long-term fiscal health. Most state pension schemes are based on the concept of defined benefit. Workers are entitled to a retirement payment under

a DB scheme based on their years of service and average earnings, regardless of the real funds available in the pension systems investment portfolios when they retire. In the brief term, however, there is no requirement that these contributions be adequate to finance the schemes completely. Regardless of the level of contribution, government is usually the last resort funders, ensuring that pension payments are effectively made to retirees. If pension schemes are underfunded, governments need to tackle this issue earlier or later through extra schemes contributions. If schemes are overfunded, it is possible to redirect public funds from pensions to other public programs. This is comparable to private-sector DB plans, where excess returns directly add to strong profitability (Giertz, 2011). Share capital was measure by the guaranteed funds ie equity invested by the shareholders in the fund.

According to Matu (2011), the poor results of commercial banks puts demand on them to retain high lending rates in an attempt to reduce the losses associated with these loans. The Central Bank of Kenya Bank Supervision Annual Report (2009) emphasized that core capital is key to financial health of commercial banks and the finance sector. Therefore, banks must aim to maintain high core capital levels.

Nyagaka (2012) conducted a survey to determine the impact of core capital on commercial bank profitability in Kenya. The study's goal was to determine the impact on profitability of the core capital impact. The findings showed that the core capital and profitability have a favorable linear connection. It also showed that 20% of the profitability is affected by the core capital. Consistent with previous estimations that inadequate core capital in the banks was a cause of less profitability in the commercial banks this study determined that banks have a responsibility to ensure their capital base is adequate enough to be able to offer loans and other vital financial services to their customers. The study recommended that the banks should ensure their capital base is adequate enough be in a position to earn higher revenues and make higher profits.

Study by Mwenda (2011) aimed to create the connection between Share Capital and commercial bank profitability in Kenya. The nature of the data collected necessitated the use of empirical research design. Secondary information were gathered from the

annual reports and financial statements of the banks with the Central Bank of Kenya for the period 2001-2010. From the findings of the study, it can be concluded that core capital is linearly related with profitability as measured using ROE across all the three tiers of banks, tier group one, tier group two and tier group three used in the study. The study has also concluded that core capital is not a major determinant of profitability (ROE) across all the three tiers of the banks which are supported by the weak values of both correlation coefficient and coefficient of determination analyzed using simple linear regression and correlation analysis. Based on the study findings, it is recommended that a number of the independent variables be included and a multiple linear regression model be used. Similar studies need to be done in non-commercial banks operating in the Kenyan banking industry and the results be compared to establish whether the models are consistent among the various categories of the banks.

Kivuvo and Olweny (2014) examined the achievement of Savings Credit and Cooperative Societies (SACCOs) in Kenya using the corporate bankruptcy score model Altman Z, the research concentrated on bankruptcy predictor factors and the economic stability of SACCOs. The research discovered that leverage had a major effect on the results of SACCO. Financial stability, according to the research, improves economic efficiency. The research found that SASRA was correct to advocate for extra SACCO capital base. They suggested that SACCOs enhance their working effectiveness and complete asset turnover if they need to stay in company and fulfill the Sacco Societies Regulatory Authority (SASRA) capitalization limit.

Saona (2010) examined the connection between U.S. business banks ' capital structure and results. The research disclosed that there was an adverse connection between the capital ratio and the banking industry's profitability. Another research by Berger and Bowman (2012) showed that equity helps tiny banks at all times boost their likelihood of survival and market share (during banking crises, market crises, and ordinary times). They further studied arguing that capital enhances medium and big banks ' efficiency mainly during banking crises.

2.4.4 Accruals

Artikis and Papanastasopoulos (2016) determined whether there is any relationship between current accrued earnings, growth in long-term net operating assets and future profitability for the companies listed on NSE. The study period was from 1999 to 2004, the year 1999 is a base year. Out of 49 companies listed on the Nairobi Securities Exchange (NSE) during this period only 35 companies qualified for this study. The study used financial reports which were obtained from NSE handbook and CMA library. The multiple regression analysis was performed on the collected data with aid of Statistical Package for Social Science (SPSS), to establish relationship between current accrued earnings, growth in long-term net operating assets and future profitability, for the companies listed on NSE. The study findings revealed that there is no relationship between accrued earnings, growth in long-term net operating assets and one year-ahead return on assets for the companies listed on NSE.

Bloomfield, Gerakos and Kovrijnykh (2015) estimated the rate of firm-level conversion of working capital accruals into future cash flows. The anticipated cash value of a dollar of working capital accruals is determined by these conversion rates. The study finds that a one-dollar innovation to accruals translates into 95 cents of cash flow in the following fiscal year for firms whose accrual innovations reverse within one year. The research also finds that the relationship between the accruals of working capital and annual returns improves with the speed at which accrual innovations convert to cash flows. In addition, companies are less likely to receive an Accounting and Auditing Enforcement Release (AAER) when accrual innovations convert faster and fully to cash flows.

A sample of 2,123 Japanese non-financial companies listed on the Tokyo Stock Exchange for the period 1990-2004 was analyzed by Nobanee and AlHajjar (2014). The research found that by shortening the cash conversion cycle, the receivables collection period and the inventory conversion period, business executives can boost profitability. The findings also proposed that expanding the period of deferment of payables might boost profitability. However, executives should be cautious because

extending the deferral period could damage the credit reputation of the company and in the long run harm its profitability.

Barth, Beaver, Hand and Landsman (2015) research on accruals, accounting-based valuation models and equity prediction; consider three levels of income disaggregation: overall earnings, cash flow and complete accruals, and cash flow and four significant accrual elements. Imposing the LIM structure outcomes in considerably lower forecast mistakes for pooled estimates; it does not result in by-industry estimates. Nevertheless, by-industry forecast mistakes are significantly lower, indicating better defined by-industry estimates.

Mean forecast mistakes are less when earnings are disaggregated into cash flow and significant accrual parts; average forecast mistakes are less when profits are disaggregated into cash flow and complete accruals. These results indicate that if the equity value forecast error distribution is concerned with mistakes, then income should be disaggregated into cash flow and significant accrual elements; otherwise income should only be disaggregated into cash flow and complete accruals. It is not expensive to impose a LIM framework. The assessment of abnormal income, accruals, accrual elements, equity book value and other data differs considerably across industry.

2.4.5 Adherence to Regulations

Raichura (2015) evaluated the pension system in Kenya on behalf of the OECD and noted that a pension benefit industry with little efficient regulation and oversight was seen in the pre-RBA period in Kenya. The interests of employees of the pension system and their beneficiaries have not been adequately shielded. There has been concern about the design and economic viability in the nation of certain systems unless suitable remedial action has been taken. Scheme funds were poorly administered and invested with specific concerns about asset levels, especially in property. This was inadvertent and unintentional in most cases, but there was always a risk of mismanagement and outright misappropriation without adequate controls and supervision. There was lack of additional disclosure and accountability. Also, the

NSSF was riddled with problems of governance and worries about its assets and benefits payments. Not surprisingly, there was low confidence in the industry. Therefore, the main motive for reforming and enacting the pension benefit law in Kenya in 1997 was to enhance the governance, management and efficiency of the NSSF and the occupational pension industry. The enactment of the Retirement Benefits Act (' RBA ') (1997) and the creation of the Retirement Benefits Authority (' the Authority ') in 2000 marked the start of Kenya's controlled, structured and more accountable pension benefits industry (Raichura, 2015).

Ruguru (2010) evaluated the effect on the cost efficiency of pension benefit schemes in Kenya of the pension benefit laws. The study compared cost efficiency between the two periods: pre and post introduction of regulations. The correlation results indicated a high positive correlation between cost efficiency and pension paid out to members and regulation dummy indicating Cost efficiency is determined by pension paid out to members and regulation dummy. Therefore, the study concluded that the introduction of regulation increased the cost efficiency among the pension schemes.

Comparative test between the two periods pre and post introduction of regulation indicated that the two periods are weakly correlated. The paired samples t-test statistics is 9.028 and significance indicating that the two periods are not related and are independent of each other. The outcome showed that after the implementation of pension benefit scheme regulation, cost efficiency was slightly improved.

Owinyo (2017) conducted an effect study on the economic results of occupational pension schemes in Kenya by regulating the retirement benefits industry. The research set out to explore whether regulatory enactment had an important effect on retirement schemes ' economic performance. A sample of thirty occupational pension benefit systems from information collected from scheme administrators was chosen. The total contributions and fund values for each sample plan were evaluated for each of the five years preceding and five years post-2000. Using the matched or paired t-test, results suggested that the economic performance of the occupational pension benefit schemes population during the period during which the laws were in place had an important beneficial effect.

Karisa (2013) research examined the effect of the 1997 Pension Benefits Act on the investment portfolio of pension funds. The study showed that pension schemes have realigned their investment portfolios and in particular the study showed that pension plans have now become major players in the capital market. Investment by pension plans in securities traded at the Nairobi Stock Exchange has increased tremendously, making them major institutional investors. This has improved the liquidity of securities traded at the Nairobi Stock Exchange. The study showed that pension schemes have kept within the investment ceilings set by the Retirement Benefits Act, 1997. There have also been major changes in the proportions of funds invested in some types of assets in light of the investment guidelines of the Retirement Benefits Act, 1997.

Kihunyu (2015), conducted study on the effects of retirement benefit authority act on risk of investments held by pension funds in Kenya. The purpose of the study was to determine the effects of RBA Act 2000 on investment risk of pension funds in Kenya. The study enlightens the stakeholders in the pension industry on the risk effects arising from RBA enactment. The data was obtained from secondary sources, which included pension funds audited accounts, end of period returns and annual returns from Retirement Benefits Authority. The information was analyzed using SPSS on the portfolio of the pension fund's earnings and asset allocation. The study revealed that with application of RBA Act the asset distribution of pension fund's portfolio have changed. It was established that pension funds have invested heavily in marketable and liquid assets improving liquidity of pension funds.

Njeru (2014) established the effect of the regulatory control changes passed since 2007 to date on the financial performance of pension schemes. Secondary data were gathered from financial reports from the pension benefit fund and multiple regression analyzes used in the data analysis. The study found that regulations affect the financial performance of retirement benefits funds in Kenya, thus the study concludes that since the enactment of the Retirement Benefits Authority Act, there has been significant growth in performance of retirement benefits fund.

2.4.6 Performance of Pension Funds

Pension funds perform various activities that are beneficial to both individuals and the economy as a whole. For instance, the funds stimulate capital and money market development through their substituting and complementary roles with other financial institutions, specifically commercial and investment banks (Meng & Pfau, 2010). As competing intermediaries for household savings and corporate financing (Impavido, Musalem, and Tresel, 2012), pension funds increase competition and may improve the efficiency of the loan and primary securities markets. This results in a lower spread between lending rates and deposit rates, and lower costs to reach capital markets.

On the other side, Meng (2010) claims that, by buying long-term debt securities or investing in long-term bank deposits, pension funds can complement banks. Other prospective effects from the development of pension funds include encouraging financial innovation, improving economic laws and corporate governance, modernizing securities market facilities, and improving the general effectiveness and transparency of the financial market. Ultimately, such effects should spur greater long-term economic growth. Pension fund output is very crucial as it plays a very important part in any country's economy.

Studies on the performance of pension funds either use financial ratio analysis or compare the pension fund returns with the market indices (Stanko 2012; Bikker & Dreu, 2014). As regards firm performance measures include return on assets (ROA) and profitability. The reported earnings before depreciation and other non-cash flow items divided by the average assets was used as the measurement.

2.5 Critique of Existing Literature

The research by Andersen (2015) noted that it is the duty of the pension fund industry to manage the assets of the pension contributors, which is a major obligation, and it may not always be treated appropriately from the point of perspective of the pension contributors.

However, the research by Andersen (2015) did not fully educate the present survey on the role of the quantity of contributions on pension schemes results. The present research used a report from Old Mutual (2014) on Guaranteed Investments in South Africa to review the share capital variable. The research will enrich this survey and guide the results in what to expect. The research disclosed that the core capital growth fund is a portfolio of long-term investment aimed at providing significant guarantees for steady growth. The research was conducted in South Africa, however, and a comparable research is of paramount significance in Kenya.

2.6 Research Gap

As noted in this chapter's debates, appropriate economic structure guarantees permanence, providing cushion to absorb losses and impairment of pension funds. Therefore, pension schemes should strive to maximize on the earnings to build an effective financial structure (Omondi, 2008). Kenyan retirement funds' economic effectiveness has been subject to enhanced scrutiny. Policymakers have continuously modified the financing structure (structure of capital requirements) for pension funds to reflect changing economic and financial conditions. Njuguna (2011) conducted a survey on the determinants of corporate governance of pension funds in Kenya and found that governance of pensions is affected by pension legislation, management and age of affiliation. Ngetich (2012) conducted a survey of the growth determinants of individual pension schemes in Kenya.

The research found an important connection between fund governance and the development of pension systems. Despite research on pension fund performance, there are no studies that have tried to determine the position of pension schemes financing structure on pension fund performance. Therefore, the aim of the research was to evaluate the position of the financing framework of pension schemes on the performance of pension funds in Kenya to bridge this gap.

2.7 Chapter Summary

The above chapter reviewed the various theories that explain the link between independent and dependent variables and the following theories tend to support the study Theory of financial intermediation, Pecking order theory, the firm growth theory and Institutional theory. The study developed a conceptual model to provide a greater understanding of the subject matter. The conceptual framework clearly shows the relationships between response variable (dependent) and the predictor variable (independent) and is explained using concepts that capture the key variables and links on their relationships with emphasis on amount of contribution, share capital, retained earnings and adherence to regulations. A critical review of empirical literature was undertaken to appreciate the efforts and evaluate contributions made by other researchers in the area and identify knowledge gaps.

Table 2.1: Theoretical Matrix

Author/Y ear	Count ry	Topic of study	Study Objectiv es	Methodol ogy	Findings	Commen ts (gap)
Andersen, J. G. (2015).	Denma rk	Impact of pension reforms on Danish pension funds	To analyse the impact of pension reforms on Danish pension funds.	Descriptiv e	The pension fund sector is responsible for managing the pension contributors' wealth which is a great responsibility	The study was conducted in Denmark which is a developed economy and hence it can be done in a developing economy such as Kenya.
Giertz, J. F. (2011).	USA	Impact of Pension Funding on State Government Finances	The study focused on the impact of pension funding on state government	The study design used was descriptive and exploratory	The study revealed that the indirect effects of capital gains on state finances through	The research gap to be filled is the moderating effect of regulation.

		finances		state
				pension
				fund
				growth and
				decline
				have had
				an even
				greater, but
				overlooked
				, effect on
				the long-
				term fiscal
				health of
				states.

Edom and Aganyi (2015)	Nigeria	The impact of retained profit on corporate performance of Niger Mills Company Ltd.	The research evaluated the Importance of retained profits as an alternative source of financing the activities of a corporati	Descriptiv	The study findings indicated that the future earnings capacity of Niger Mills Ltd. Calabar depends on its retained profit..	The study was carried out in Nigeria and perspective from a different nation is of essence hence the motivation of the current study
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on.						
Raichura, S. K. (2015).	Kenya	Analytical Review of the Pension System in Kenya	The main objective of this research was an analysis of the Kenyan Pension System	Exploratory research design	The study found that there was poor administration and investment of scheme funds with particular concerns on concentration of investment, particularly in property. Further disclosure and accountability were lacking.	The study was a general analytical review while the current study seeks to fill the information gap on the role of pension schemes financing structure on performance of pension funds in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter examines the methodology that was used to accomplish the research objectives. Here the research philosophy, research design, target population, sampling design, sample size, data collection and analysis, are discussed. According to Kothari (2004), a research methodology is a way of systematically solving the research problem. It may be understood as a science of studying how research is done scientifically. It establish the various steps that are generally followed by a study on evaluating the research problem.

3.2 Research Philosophy

This study was guided by philosophy of positivism. The key idea of positivism is that the social world exists externally and should be measured by objective methods rather than subjectively inferred by sensation, reflection and intuition (Bashir, Syed & Qureshi, 2017). The positivist philosophy premises that knowledge is based on facts and that no any abstractions or subjective considerations can be entertained. Positivism perspective hold that there is objective reality which can be expressed numerically based on explanatory and predictive power (Neuman, 2013). Understandably, knowledge from this view is applicable only if it is based on values of reason and facts, produced from information collected through direct observations and experience, evaluated using quantitative techniques and subjected to statistical assessment to explain causal relationships as conceptualized (Saunders et al., 2009). Thus, the philosophical foundation underpinning this study was positivism where the scientific processes was followed in hypothesizing and deducing the observations so as to determine the correct position of the hypotheses.

3.3 Research Design

Rajendra (2008) describes research design as the connection and organization of conditions for gathering and analysis of data in relation to the research purpose. Rajendra further posts that research design targets the structure of an enquiry, which leads to the reduction of the chance of drawing the wrong casual inferences from the data. Research design is an overall structure for the methods to be used to collect and analyze the data of a research study (McDaniel & Gates, 2013). Choosing the appropriate research design is a function of the research objectives and information requirements for the study.

Most research aims can be achieved by using three types of research design, namely: exploratory, descriptive and causal research design. Causal research design was used for this study because the study aim was to collect raw data and create data structures and information that would allow modeling of the cause-and-effect relationship between two or more variables. McDaniel and Gates (2013) also show that quantitative research methods are more directly related to casual research designs than to exploratory designs.

3.4 Study Population

The total population is the whole spectrum of an interest system or process. The research can be generalized to the world of individuals (Johnston & VanderStoep, 2009). There are 1308 registered pension funds in Kenya, according to the RBA (2017). All registered pension schemes were the target population.

Table 3.1: Study Population

Strata	Population	Percentage
Occupational pension schemes	1,226	93.96 %
Individual retirement schemes	82	6.04%
Total	1308	100 %

Source: (RBA, 2016)

3.5 Sample Size and Sampling Procedure

A sample is a representative nominated for assessment of the whole population (Kothari, 2004; Bryman & Bell, 2003). The criterion used for this research in selecting the sample was that the pension plan must be recorded in the register with the RBA as of December 2015 and must have existed for at least 10 years. The research used the formula of Fisher, Laing & Stoeckel (1983) to select a sample of 79 retirement funds.

$$n = \frac{z^2 \cdot p \cdot q \cdot N}{e^2 (N-1) + z^2 \cdot p \cdot q}$$

where;

z = standardized normal deviations of the sampling distribution at a confidence level of 95 percent which is 1.96

p = the proportion in the target population that assumes the characteristics being sought. In this study, a = 50:50 basis is assumed which is a probability of 50 percent (0.5).

q = The balance from p to add up to 100 percent. That is 1-P, which in our case was 1- 50 percent (0.5).

N = the total population

e=precision level at 0.10

$$n = \frac{1.96^2 \cdot 0.5 \cdot 0.5 \cdot 1308}{(0.10^2 \cdot 1307) + (1.96^2 \cdot 0.5 \cdot 0.5)}$$
$$n = 78.7529 = 79$$

The study used (0.5) as the values of “p” and “q” in the formula. Fisher *et al.*, (2003) recommended that if there are no estimates available in the target population assumed to have the characteristics of interest, 50% should be used for the proportion of the target population with characteristic being measured.

Stratified sampling technique was employed to select the sample for the study.

Simple random sampling was done to ensure that the selected sample had the desired representation from the pension schemes in determining the number of pension schemes from each category (Occupational pension schemes and Individual pension schemes). For each group, the stratified sample of retirement plans was further determined using the percentage representation acquired as shown in table 3.2 below.

Table 3.2: Pension Schemes by Type

Type of Pension Schemes	Population	Percentage	Sample size
Occupational pension schemes	1,226	93.96 %	73
Individual retirement schemes	82	6.04 %	6
Total	1308	100%	79

Source: (RBA, 2016)

3.6 Data Collection

Data was collected from 79 registered pension schemes with the RBA. The study used secondary data contained in the annual reports and financial statements of the 79 registered pension schemes.

The secondary data was quantitative in nature and was extracted from the annual financial statements and reports of the pension funds. These financial statements usually both in hard and soft copies reside with the Fund Managers, Scheme Trustees, Scheme Administrators and RBA as filed returns. For the purpose of the study, these financial statements and reports were sourced from the RBA system and

the pension funds for validity. For the data to be representative enough, the study reviewed secondary data depending on data availability and access.

3.6.1 Data Collection Methods

Data collection methods are described as various ways in which data can be gathered: primary and/or secondary. Secondary data is the data that have been already collected and readily available from other sources (Hox & Boeijs, 2016).

This study used secondary data that was extracted from the annual financial statements and reports of the selected pension funds filled with the RBA. This involves examination and copying and calculation of the required figures from the financial statements. Financing structure ratios were obtained. The ratios show the proportion for each element (independent variable) in the financing mix. The report of external auditor on the financial statements and annual report was examined to ascertain the auditor's opinion on the compliance with regulation.

3.7 Statistical Tests, Data Analysis and Presentation

Statistical tests refer to pre-analysis tests that are conducted on the data set to ensure that it meets the expected threshold (Kothari, 2012). In this study, several statistical tests were conducted; Test for Fixed or Random Effects, multicollinearity test, normality test, heteroskedasticity, auto correlation and hausman test in order to determine the appropriate regression method according to the characteristics of the data

3.7.1 Test for Fixed or Random Effects

When performing data analysis of the panel, it is necessary to determine whether to run a model of fixed effects or a model of random effects. While the fixed-effect model assumes firmly-specific intercepts and captures impacts of those factors that are particular to each company and continuous over time, the random-effect model assumes that a single prevalent intercept exists and differs randomly from company to firm (Baltagi, 2005). Thus, first, it is essential to determine if there is a correlation

between the independent variables to estimate the models. If the correlation does not exist then a fixed-effect model will yield coherent outcomes otherwise the random-effect model will be an effective estimator and is estimated by the generalized least square (Teruel & Solano, 2007). To determine which of these two models is suitable, both fixed and random effects estimate coefficients. Hausman's specification test (1978) was used to determine whether it was necessary to use a fixed or random effect.

If the hypothesis is null, that is. $E(\mu_i / x_{it}) = 0$ is accepted, then random effect will be an efficient estimator otherwise, if the null hypothesis is rejected, a fixed effect estimate will provide a better or more efficient beta estimate. Eviews software for the evaluation of the above models was used.

3.7.2 Multicollinearity Test

Multicollinearity refers to a situation where the regressors influence one another i.e the independent variables act as proxies (Field, 2009). In this situation the parameters are still Best Linear Unbiased Estimator (BLUE) but the standard errors and variances are inflated. Multicollinearity test was performed so as to avoid spurious regression results. In this study, multicollinearity test was conducted using the correlation matrix.

3.7.3 Normality test

The first stage is to examine whether the variables are following the normal distribution. The research depended on the Jargue-Berra test where a normality null hypothesis is tested against the non-normal distribution alternative hypothesis. The JB statistic's critical value is 5.99.

Ho: JB= 0(normally distributed)

H1: JB \neq 0 (not normally distributed)

Rejecting the null would indicate that the variables are not normally distributed and that a logarithmic transformation is needed.

3.7.4 Test for Heteroskedasticity

The OLS assumes that the residuals are Homoscedastic ie the residuals have constant variance. The Breusch-Pagan-Godfrey test was used in the study to test whether the error terms have a constant variance (i.e. should be Homoscedastic). A p value of more than 5% indicates that the error terms are homoscedastic.

3.7.5 Autocorrelation Test

The autocorrelation test was performed to determine if residuals are correlated over time. If the p value is less than 5%, the H_0 of no autocorrelation is dismissed.

3.7.6 Data Analysis and Presentation

Simple and multiple regression models were used to analyze the data. The regression analysis was done using Eviews computer package. The models were as follows:

Simple Regression Model

$$P_{pf} = \beta_0 + \beta_1 X_i \dots \dots \dots (1)$$

Model (1) was used in testing the first four hypotheses. While the fifth hypothesis was tested using model (3).

Multiple Regression Model

$$P_{pf} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots \dots \dots (2)$$

Where P_{pf} is the performance of pension funds and this was measured using the profitability index of ROA; X_1 is retained earnings; X_2 is the amount of contributions, X_3 is the share capital and X_4 is accruals. The terms β_0 , β_1 , β_2 , β_3 and β_4 represent the intercept in the regression and the sensitivity of performance on each of the factors respectively. The *T-tests* at 95% confidence level was used to determine the

statistical importance of the constant terms β_0 and coefficient terms β_{1-3} . The *F-tests* was used to determine whether the regression is of statistical significance at 95% confidence level. The coefficient of determination R^2 and the adjusted R^2 were used to determine how much variation in the dependent variables is explained by variation in the independent variables. The analysis was done using E-Views 9.

The interaction between independent variable and moderator in the model could decrease or increase the effects on dependent variable. In testing the moderating effect of adherence to regulations on the relationship between financing structure and performance of pension schemes in Kenya, when the moderator variable M enters the model, the moderation effect of M is modeled in the regression equation as follows:

$$P_{pf} = \beta_0 + Z (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4) + \varepsilon \dots \dots \dots (3)$$

Equation (3) demonstrates the moderating impact of regulatory compliance on the connection between each of the pension fund's autonomous factors and results (ROA). Data was presented using tables and graphs where applicable for clarity and easy of understandability.

3.8 Variables Operationalization

Variable operationalization refers to how a specific study variable is defined and measured in line with the study context (Kothari, 2012). Table 3.3 provides details on the variables' operationalization.

Table 3.3: Operationalizat Degree ion of Study Variables

Objectives	Hypothesis	Variable	Measure & model	Statistic
Objective 1: To assess the influence of retained earnings on the performance of pension funds in Kenya	Retained earnings do not affect the financial performance of pension funds in Kenya	Retained Earnings	Retained earnings at the end of the year $P_{pf} = \beta_0 + \beta_1 X_1 + \varepsilon$	t-Statistic R squared F Statistic Beta Coefficient P value
Objective 2: To examine the relationship between the amount of contributions and performance of pension funds in Kenya	The amount of contributions does not affect the performance of pension funds in Kenya.	Amount of contributions	Members' annual contribution. $P_{pf} = \beta_0 + \beta_2 X_2 + \varepsilon$	t-Statistic R squared F Statistic Beta Coefficient P value
Objective 3: To analyze the influence of share capital on the performance of pension funds in Kenya	Share capital does not have any effect on the performance of pension funds in Kenya	Share capital	Reported share capital at the end of the year $P_{pf} = \beta_0 + \beta_3 X_3 + \varepsilon$	t-Statistic R squared F Statistic Beta Coefficient P value

Objective 4: To establish the relationship between accruals and performance of pension schemes in Kenya	Accruals do not affect the performance of pension funds in Kenya.	Accruals	Accrued expenses	$P_{pf} = \beta_0 + \beta_4 X_4 + \varepsilon$	t-Statistic R squared F Statistic Beta Coefficient P value
Objective 5: To determine the moderating effect of adherence to the regulations on the relationship between financing structure and performance of pension schemes in Kenya	Adherence to regulations does not have a moderating effect on the relationship between financing structure and performance of pension schemes in Kenya	Adherence to regulation	1 or 0 was assigned depending on the quality of audit report and information disclosure	$P_{pf} = \beta_0 + Z (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4) + \varepsilon$	t-Statistic R squared F Statistic Beta Coefficient (Interaction effect) P value
Performance of pension funds		Performance of pension funds	Cash flow-based Return on Assets		

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the results of analysis and the findings with regard to the study objectives. In addition, the following are presented in the chapter; data analysis and presentation, trends, tests for normality, Multicollinearity, Heteroskedasticity, Autocorrelation, Hausman test and finally the model results are presented.

Secondary data was obtained from the annual reports and financial statements of 79 registered pension schemes. These financial statements usually both in hard and soft copies reside with the Fund Managers, Scheme Trustees, Scheme Administrators and RBA as filed returns. For the purpose of the study, these financial statements and reports were sourced from the RBA system and the pension funds for the period from 2012 to 2015. RBA changed the information system and all the data prior to 2012 was discarded.

4.2 Statistical Tests

4.2.1 Multicollinearity Test

Correlation matrix was used to test for multicollinearity. The results indicated that there was no multicollinearity between the independent variables since all the values were less than 0.8. According to William *et al.* (2013), a correlation value of less than 0.8 indicates that there is no multi-collinearity.

Table 4.1: Correlation Matrix

	Proportion of Retained Earnings in Financing Structure	Proportion of Amount of Contributions in Financing Structure	Proportion of Share Capital in Financing Structure	Proportion of Accruals in Financing Structure	Adherence to Regulations
Proportion of Retained Earnings in Financing Structure	1				
Proportion of Amount of Contributions in Financing Structure	0.052	1			
Proportion of Share Capital in Financing Structure	0.359	0.100	1		
Proportion of Accruals in Financing Structure	0.056	0.094	-0.013	1	
Adherence to Regulations	-0.078	0.095	0.148	0.0037	1

4.4.2 Test for Normality

The Jarque-Bera test was used to test the normality of the residuals since it is more conclusive than skewness and kurtosis tests. The residuals derived from the model were not normally distributed as shown in Figure 4.1. A Jarque-Bera statistics of

635.2768 and a p value of 0.000 supported the results. However, normality of the data was assumed since large number of observations were made. According to Gel and Gastwirth (2013), when the probability value exceeds 0.05, data is normally distributed.

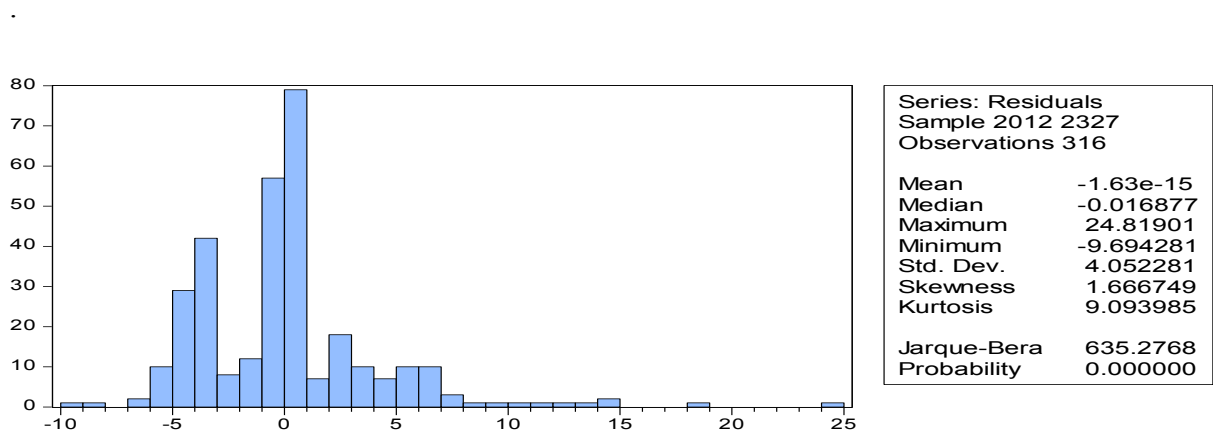


Figure 4.1: The Jarque-Bera Normality Graph

4.4.3 Test for Heteroskedasticity

The OLS assumes that the residuals are homoskedastic. The Modified Wald test was used in the study where the null hypothesis of the test is error terms have a constant variance (i.e. should be Homoskedastic). The results in the table 4.2 indicate that the error terms are homoskedastic, given that the p-value is more than the 5%. According to Field (2009), the null hypothesis of homoscedasticity is accepted when the probability value is greater than 0.05

Table 4.2: Modified Wald Test for Heteroskedasticity

Modified Wald Test for Heteroskedasticity		
H0: Constant Variance (Homoskedasticity)		
chi2 (79)	=	3.8e+05
Prob>chi2	=	0.100

4.4.4 Test for Autocorrelation

The test for autocorrelation was done to determine whether residuals are correlated over time. The results of table 4.3 indicated that the H_0 of no autocorrelation is not rejected and that residuals are not auto correlated (p-value=0.5838). According to Field (2009), the null hypothesis of no autocorrelation is upheld when the probability value is greater than 0.05.

Table 4.3: Wooldridge test for Autocorrelation

Wooldridge test for autocorrelation		
H0: no first-order autocorrelation		
F(1, 78)=0.303		
Prob>F	=	0.5838

4.3 Influence of Retained Earnings on Financial Performance

The first objective of the study was to assess the influence of retained earnings on the performance of pension funds in Kenya.

Table 4.4 presents descriptive results of retained earnings in terms of means and standard deviations for all the firms for the period from 2012 to 2015. Based on the results, the retained earnings were highest in 2012 (M=0.4048) and lowest in 2013

(M= -0.0505). This means that the value of retained earnings for the pension funds declined drastically between 2012 and 2013.

Table 4.4: Descriptive Summary; Retained Earnings

	Year	N	Mea n	Std. Deviation
Proportion of Retained Earnings in Financing Structure			0.404	
	2012	79	8	1.7041
			-	
			0.050	
	2013	79	5	1.0577
			0.219	
	2014	76	5	0.58179
	2015	79	0.239	0.42803

4.3.1 Trend Analysis

Figure 4.2 indicates the trend of retained earnings for the period from 2012 to 2015. For the period from 2012 to 2013, the average retained earnings for the 79 pension schemes indicate a decrease. However, for the period 2013 to 2014, the trend shows an increase in the retained earnings. Further, the trend indicates a constant growth in the average retained earnings for the 79 pension schemes between 2014 and 2015. The trend line indicates an overall decline in the average retained earnings for majority of the pension schemes.

According to Edom and Aganyi (2015) future earnings capacity of Niger Mills Ltd. Calabar depends on its retained profit. It was also revealed that accumulated profit retained in the business has the potential of boosting future earnings. It was therefore recommended that, corporate bodies should always retain profits in their business rather than distribute all of it to shareholders.

Based on previous study findings, we can deduce that the more the amount of retained earnings an organization has, the more likely the organization will become more profitable in the future. However, this possibility is only viable if the firms inject the amount held as retained earnings into profitable investment ventures.

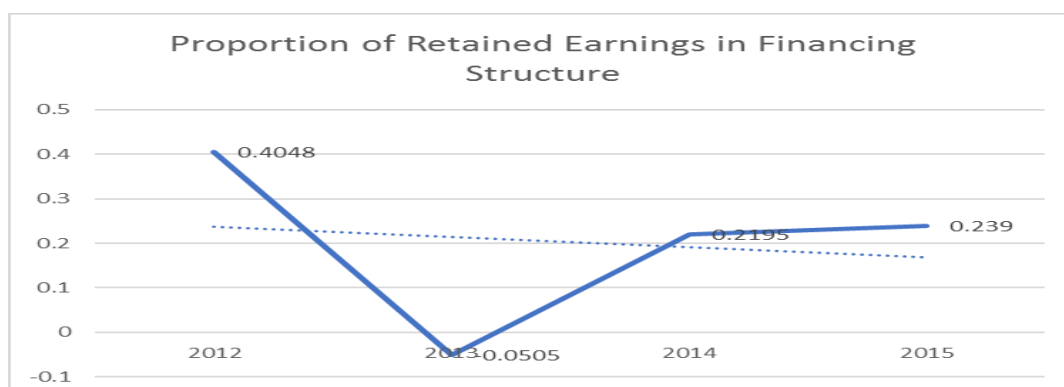


Figure 4.2: Annual trend for Retained Earnings from 2012 to 2015

4.3.2 Correlation Analysis

Table 4.5 below shows the results of the correlation analysis. The results revealed that retained earnings and ROA are positively and significantly associated ($r=0.362$, $p=0.000$). This implies that both retained earnings and performance move in the same direction.

Table 4.5: Correlation Matrix

	ROA	Retained Earnings
ROA	1.000	
Proportion of Retained Earnings in Financing Structure	0.3627	
	*	1.000
	0.000	

* Correlation is significant at the 0.05 level (2-tailed).

4.3.3 Regression Analysis

In order to establish the effect of retained earnings on the financial performance (ROA), a regression model was run and the results are presented in the table 4.6 below. The results present the fitness of model used of the regression model in explaining the study phenomena. Retained earnings was found to be a satisfactory variable in explaining performance (ROA). This is supported by coefficient of determination also known as the R square of 13.16%%. This means that retained earning explain 13.16% of the variations in the dependent variable which is performance of pension schemes. The results further means that the model applied to link the relationship of the variables was satisfactory.

In statistics significance testing the p-value shows the level of relation of the independent variable to the dependent variable. If the significance number found is less than the critical value also known as the probability value (p) which is statistically set at 0.05, then the conclusion would be that the model is significant in explaining the relationship; or else the model would be regarded as non-significant. Table 4.6 provides the results on the analysis of the variance (ANOVA). The results indicate that the model was statistically significant. Further, the results imply that the independent variable (retained earnings) is a good predictor of performance. This was supported by an F statistics of 47.5728 and a p value (0.000) which was less than the conventional probability of 0.05significance level.

Regression of coefficients results in table 4.6 shows that retained earnings and performance (ROA) are positively and significantly related ($r=0.06835$, $p=0.000$). The study findings agree with those of Edom and Aganyi (2015) who concluded that accumulated profit retained in the business has the potential of boosting future earnings. It was therefore recommended that, corporate bodies should always retain profits in their business rather than distribute all of it to shareholders as cash dividend. Further, the study findings concur with those of Ekwe and Inyama (2014) who found a strong relationship (about 77%) between retained earnings and net asset value per share.

Table 4.6: Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Proportion of Retained Earnings in Financing Structure	0.06835	0.00991	6.8973	.000
C	1.9425	0.27214	7.1377	.000
R-squared	0.13157			
Adjusted R-squared	0.12881			
F-statistic	47.5728			
Prob(F-statistics)	0.000			

Therefore, the specific model was;

$$ROA = 1.9425 + 0.06835 \text{ Proportion of Retained Earnings in Financing Structure}$$

4.3.4 Hypothesis Testing

The acceptance / rejection criteria was that the H_0 is rejected if the t-value is greater than t-critical (1.96), but if it is less than 1.96, the H_0 is not rejected. The null hypothesis was that retained earnings do not significantly influence the financial performance of pension funds in Kenya.

Results in Table 4.6 above indicate that the calculated t-statistics of 6.8973 exceeded the critical t-statistics ($t_{\alpha} = 1.96$). Further support for the results was a p-value of 0.000. This shows that the null hypothesis was dismissed and therefore retained income had a significant impact on pension funds' performance.

4.4 Influence of Amount of Contributions on Financial Performance

The second objective of the study was to examine the relationship between the amount of contributions and performance of pension funds in Kenya. Table 4.7 presents descriptive results of amount of contributions in terms of means and standard deviations for all the firms for the period from 2012 to 2015. Based on the results, the contributions were highest in 2015 (Mean=0.31176) and lowest in 2014(Mean=0.2123).

Table 4.7: Descriptive Summary; Amount of Contributions

	Yea		Std.	
	r	N	Mean	Deviation
Proportion of Amount of Contributions in Financing Structure	201	7	0.240	
	2	9	6	0.32889
	201	7	0.224	
	3	9	4	0.36227
	201	7	0.212	
	4	6	3	0.35516
	201	7	0.317	
	5	9	6	0.40172

4.4.1 Trend Analysis

Figure 4.3 indicates the trend of amount of contributions for the period from 2012 to 2015. The trend shows a decline in the amount of contributions for the period from 2012 to 2014. The drop in the amount of contributions during this period could have resulted from low incomes. However, between 2014 and 2015, pension schemes experienced increased contributions from members. The increase in the amount of contributions in this period could have resulted from increase in membership.

The trend line indicates a general increase in the amount of contributions over the measurement period. An increase in the amount of contributions is likely to have a direct influence on the overall outcomes of the firms.

The trend results are in line with that of Okeyo (2016), who observed that the density of contributions received from the respondents by pension funds is also a very significant determinant of their results. If a fund has many contributors who can channel enormous resources into the system, then there will be enough money to invest and that will help the fund gain better income. The opposite is also likely to occur if contributions received from contributors are not large enough to allow the fund to enter any significant investment in assets.

Comparing the current and the previous study findings, we can infer that amount of contributions are critical in influencing the success of pension funds. Pension Funds in Kenya, should focus on raising the contributions from their members.

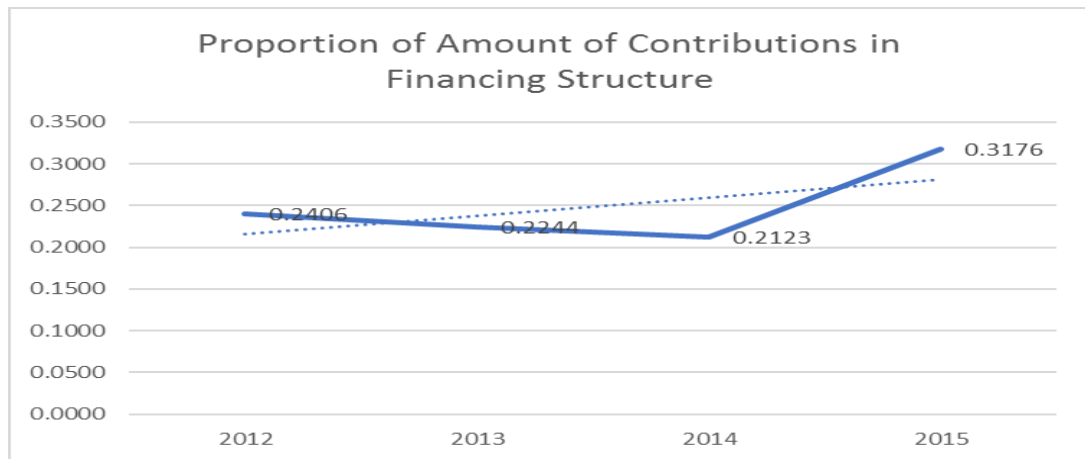


Figure 4.3: Annual trend for amount of contributions from 2012 to 2015

4.4.2 Correlation Analysis

The findings of the correlation assessment are shown in Table 4.8 below. The findings disclosed a positive and significant association between the quantity of contributions and ROA ($r=0.1713$, $p=0.000$). This implies that both amount of contributions and performance change in the same direction.

Table 4.8: Correlation Matrix

	ROA	Amount of Contributions
ROA	1.000	
Proportion of Amount of Contributions in Financing Structure	0.1713*	1.000
	0.000	

* Correlation is significant at the 0.05 level (2-tailed).

4.4.3 Regression Analysis

In order to establish the effect of amount of contributions on the financial performance (ROA), a regression model was run and the results are presented in the table 4.9 below. The results present the fitness of model used of the regression model in explaining the study phenomena. Amount of contributions was found to explain 3% of the variations in the dependent variable which is performance of pension schemes. The analysis of variance (ANOVA) results indicate that the model was statistically significant. Further, the results imply that the independent variable (amount of contributions) is a good predictor of performance. This was supported by an F statistics of 9.48763 and a p value (0.00225) which was less than the conventional probability of 0.05significance level. Regression of coefficients results in table 4.9 shows that amount of contributions and performance (ROA) are positively and significantly related ($r=3.01E-09$, $p=0.00225$).

The study findings agree with that of Okeyo (2016), who noted that the density of contributions that pension funds receive from the contributors is also a very significant determinant of their performance. If a fund has many contributors who are capable of channeling huge funds to the scheme, then there will be enough funds to invest and this will assist the fund to earn better revenues. The reverse is also likely to happen if the amounts of contributions received from the contributors are not large enough to enable the fund to enter into any significant asset investment.

In addition, the study findings concur with that of Lungu (2011), who concluded that the amount of a contribution to a pension fund is very significant in determining its performance. If a pension fund has many contributors who have not attained retirement age, it implies that they will have more financial resources that can be channeled into investment activities thus earning more income. Further, Oluoch (2013) established that the determinants of performance of pension schemes in Kenya and found a positive relationship between returns and contributions of pensioners.

In addition, the study findings agree with those of Koech (2012) who studied the factors affecting growth of the Retirement Schemes in Kenya: a case of National Social Security Fund and discovered that the fund only depends on members contributions and investment income, all of which having legal limitations.

Table 4.9: Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Proportion of Amount of Contributions in Financing Structure	3.01E-09	9.78E-10	3.0802	0.0023
	2.01541	0.29255	6.88922	0.000
R-squared	0.02933			
Adjusted R-squared	0.02624			
F-statistic	9.48763			
Prob(F-statistic)	0.00225			

Therefore, the specific model was;

$$ROA = 2.01541 + 3.01E-09 \text{ Proportion of Amount of Contributions in Financing Structure}$$

4.4.4 Hypothesis Testing

The hypothesis was tested by using the ordinary least square regression. The acceptance/rejection criteria was that, if the t-value is greater than t-critical (1.96),

the H_0 is rejected but if it's less than 1.96, the H_0 fails to be rejected. The null hypothesis was that the amount of contributions does not significantly influence the financial performance of pension funds in Kenya. Results in Table 4.9 above show that the calculated t-statistic of 3.0802 was higher than the critical t statistic ($t_{\alpha} = 1.96$). The findings were further supported by a p-value of 0.0023. This indicated that the null hypothesis was rejected hence the amount of contributions significantly influence the performance of pension funds in Kenya.

4.5 Influence of Share Capital on Financial Performance

The third objective of the study was to examine the relationship between share capital and performance of pension funds in Kenya. Table 4.10 presents descriptive results of share capital in terms of means and standard deviations for all the firms for the period from 2012 to 2015. Based on the results, value of share capital was highest in 2013 (mean=0.703) and lowest in 2012 (mean=0.2667).

Table 4.10: Descriptive Summary; Share Capital

	Year	N	Mean	Std. Deviation
Proportion of Share Capital in Financing Structure	2012	79	0.2667	1.6277
	2013	79	0.703	1.00363
	2014	76	0.4959	0.5845
	2015	79	0.3666	0.44848

4.5.1 Trend Analysis

Figure 4.4 indicates the trend of share capital of the 79 pension schemes for the period from 2012 to 2015. The trend shows a slight improvement in the value of share capital for the period between 2012 and 2013. The increase could be attributed to more injection of guaranteed funds by scheme managers due to high expected return from assets. However, the trend reveals decline in the value of share capital for the period from 2013 to 2015. This decline could be as a result of increased investment risks.

The trend implies that the value of share capital in most pension schemes has been fluctuating over time. These variations in the value of share capital are likely to have a significant impact on the performance of the pension schemes.

A report by Old Mutual (2014) showed that the core capital growth fund is a long-term investment portfolio which aims to provide steady growth with substantial guarantees. This implies that firms with adequate core capital are able to perform better. However, the current study trend results reveal that pension funds in Kenya are performing poorly in term of core capital adequacy. The current results therefore, infer that the pension funds are not doing well in terms of core capital.

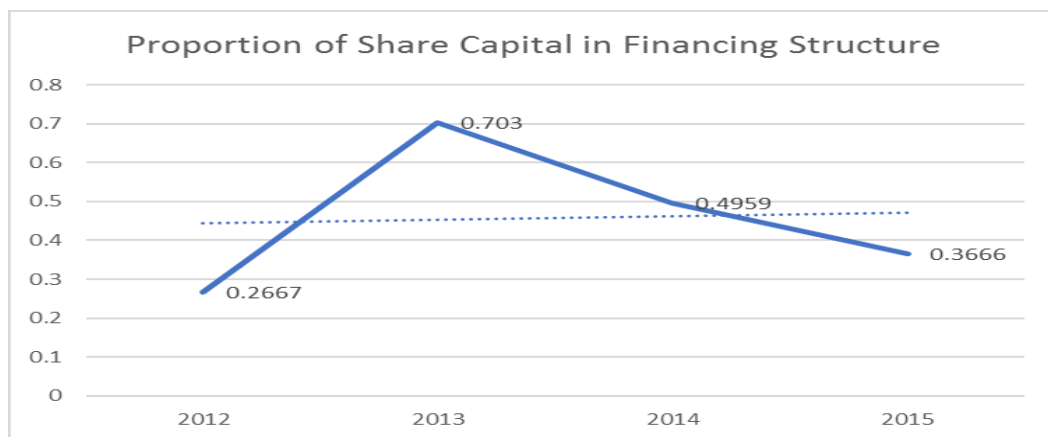


Figure 4.4: Annual trend for Share Capital from 2012 to 2015

4.5.2 Correlation Analysis

The findings of the correlation assessment are shown in Table 4.11 below. The findings disclosed a positive and significant association of share capital and ROA ($r=0.3384$, $p=0.000$). This implies that both share capital and performance change in the same direction.

Table 4.11: Correlation Matrix

	ROA	Share Capital
ROA	1.000	
Proportion of Share Capital in Financing Structure	0.3384*	1.000
	0.000	

* Correlation is significant at the 0.05 level (2-tailed).

4.5.3 Regression Analysis

In order to establish the effect of share capital on the financial performance (ROA), a regression model was run and the results are presented in the table 4.12 below. The results present the fitness of model used of the regression model in explaining the study phenomena. Share capital was found to be a satisfactory variable in explaining performance (ROA). This is supported by coefficient of determination also known as the R square of 11.17%%. This means that share capital explains 11.5% of the variations in the dependent variable which is performance of pension schemes. The results further mean that the model applied to link the relationship of the variables was satisfactory.

The analysis of variance (ANOVA) results indicate that the model was statistically significant. Further, the results imply that the independent variable (share capital) is a good predictor of performance. This was supported by an F statistic of 40.61333 and a p value (0.000) which was less than the conventional probability of 0.05 significance level.

Regression of coefficients results in Table 4.12 shows that share capital and performance (ROA) are positively and significantly related ($r=2.47E-10$, $p=0.000$).

The study findings agree with that of Giertz (2011), who concluded that if pension funds are underfunded, governments must address this problem sooner or later through additional contributions to the schemes. If schemes are overfunded, government resources can be redirected from pensions to other government

programs. This is similar to DB plans in the private sector, in which excess returns contribute directly to firm profitability (Giertz, 2011). Further, the study findings concur with a report by Old Mutual (2014), which revealed that the core capital growth fund is a long-term investment portfolio which aims to provide steady growth with substantial guarantees.

In addition, the study findings agree with those of Nyagaka (2012) who undertook a study to evaluate the influence of core capital on profitability of commercial banks in Kenya. Consistent with previous estimations that inadequate core capital in the banks was a cause of less profitability in the commercial banks. This study determined that banks have a responsibility to ensure their capital base is adequate enough to be able to offer loans and other vital financial services to their customers. Also, Mwenda, (2011) study sought to establish the relationship between Core Capital and profitability of commercial banks in Kenya and concluded that core capital is linearly related with profitability as measured using Return on Equity (ROE) across all the three tiers of banks, tier group one, tier group two and tier group three used in the study.

However, the study findings disagree with those of Saona (2010) who investigated the relationship between the capital structure of commercial banks in the United States and performance. The study disclosed that a negative relationship existed between the capital ratio and the profitability for the banking industry.

Table 4:12 Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Proportion of Share Capital in Financing Structure	2.47E-10	3.87E-11	6.37286	0.000
C	1.638581	0.28688	5.71182	0.000
R Squared	0.114528			
Adjusted R-squared	0.111709			
F-statistic	40.61333			
Prob(F-statistic)	0.000			

Therefore, the specific model was;

$$ROA = 1.638581 + 2.47E-10 \text{ Proportion of Share Capital in Financing Structure}$$

4.5.4 Hypothesis Testing

The hypothesis was tested by using the ordinary least square regression. The acceptance/rejection criteria was that, if the t-value is greater than t-critical (1.96), the H_0 is rejected but if it's less than 1.96, the H_0 fails to be rejected. The null hypothesis was that share capital does not significantly influence the financial performance of pension funds in Kenya.

Results in Table 4.12 above show that the calculated t-statistic of 6.37286 was higher than the critical t statistic ($t_{\alpha} = 1.96$). The findings were further supported by a p-value of 0.000. This indicated that the null hypothesis was rejected hence share capital significantly influences the performance of pension funds in Kenya.

4.6 Influence of Accruals on Financial Performance

The fourth objective of the study was to establish the influence of accruals on performance of pension funds in Kenya.

Table 4.13 presents descriptive results of accruals in terms of means and standard deviations for all the firms for the period from 2012 to 2015. Based on the results, value of share capital was highest in 2013 (mean=0.1232) and lowest in 2014 (mean=0.0724).

Table 4.13: Descriptive Summary; Accruals

	Year	N	Mean	Std. Deviation
Proportion of Accruals in Financing Structure	2012	79	0.0879	0.20414
	2013	79	0.1232	0.26517
	2014	76	0.0724	0.19757
	2015	79	0.0769	0.18656

4.6.1 Trend Analysis

Figure 4.5 indicates the trend of accruals of the 79 pension schemes for the period from 2012 to 2015. The trend shows a rise in the value of accruals for the period between 2012 and 2013. The trend also indicates a decline in the accrual value for the period from 2013 to 2014. This could be attributed to payment of accrued expenses by the firms. In addition, the trend shows a constant growth in the value of accruals for the period 2014 to 2015. The trend line shows a general decrease in the value of accruals of all the pension schemes.

According to Bloomfield, Gerakos and Kovrijnykh (2015), the speed at which accrual innovations turn into cash flows improves the annual yields of a company. The downward trend means a decrease in the accruals of the companies, which translates into the organization's decreased money inflow. Therefore, this scenario is likely to have a adverse impact in the short run on the performance of pension funds.

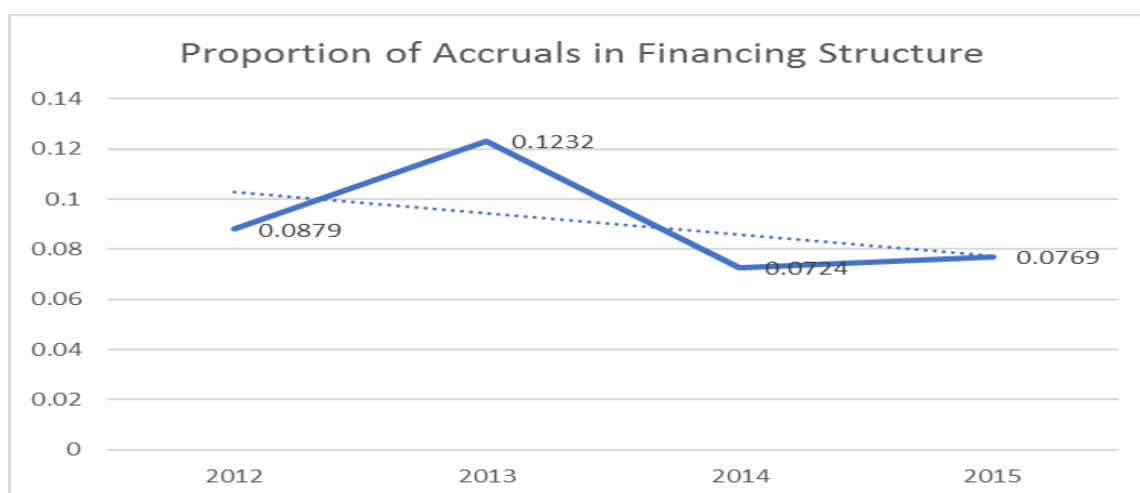


Figure 4.5: Annual trend for Accruals from 2012 to 2015

4.6.2 Correlation Analysis

Table 4.14 below presents the results of the correlation analysis. The results revealed that accruals and ROA are positively and significantly associated ($r=0.1358$, $p=0.0157$). This implies that both accruals and performance change in the same direction.

Table 4.14: Correlation Matrix

	ROA	Accruals
ROA	1.000	
Proportion of Accruals in Financing Structure	0.1358*	1.000
	0.0157	

* Correlation is significant at the 0.05 level (2-tailed).

4.6.3 Regression Analysis

In order to establish the relationship between accruals and financial performance (ROA), a regression model was run and the results are presented in the table 4.15 below. The results present the fitness of model used of the regression model in explaining the study phenomena. Accruals were found to be a satisfactory variable in explaining performance (ROA). This is supported by coefficient of determination also known as the R square of 1.84%%. This means that accruals explain 1.84% of the variations in the dependent variable which is performance of pension schemes. The results further means that the model applied to link the relationship of the variables was satisfactory.

The analysis of variance (ANOVA) results indicate that the model was statistically significant. Further, the results imply that the independent variable (accruals) is a good predictor of performance. This was supported by an F statistics of 5.895517 and a p value (0.0157) which was less than the conventional probability of 0.05 significance level.

Regression of coefficients results in table 4.15 shows that accruals and performance (ROA) are positively and significantly related ($r=1.79E-08$, $p=0.0157$). The study findings are in line with those of Bloomfield, Gerakos and Kovrijnykh (2015) who estimated the firm-level rate at which working capital accruals convert into future cash flows.

The study shows that the relation between working capital accruals and annual returns increases with the rate at which accrual innovations convert to cash flows.

This implies that accruals increase cash flows, which then translates into increase in financial performance. On the other hand, the study findings differ with those of Artikis and Papanastasopoulos (2016) who determined whether there is any relationship between current accrued earnings, growth in long-term net operating assets and future profitability for the companies listed on NSE.

The study findings revealed that there is no relationship between accrued earnings, growth in long-term net operating assets and one year-ahead return on assets for the companies listed on NSE.

Table 4.15: Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Proportion of Accruals in Financing Structure	1.79E-08	7.37E-09	2.428069	0.0157
C	2.083992	0.291958	7.137989	0.0000
R Squared	0.018430			
Adjusted R-squared	0.015303			
F-statistic	5.895517			
Prob(F-statistic)	0.015741			

Therefore, the specific model was;

$$ROA = 2.083992 + 1.79E-08 \text{Proportion of Accruals in Financing Structure}$$

4.6.4 Hypothesis Testing

The hypothesis was tested by using the ordinary least square regression. The acceptance/rejection criteria was that, if the t-value is greater than t-critical (1.96), the H_0 is rejected but if it's less than 1.96, the H_0 fails to be accepted. The null hypothesis was that accruals do not significantly influence the financial performance of pension funds in Kenya. Results in Table 4.15 above show that the calculated t-statistic of 2.428069 was higher than the critical t statistic ($t_{\alpha} = 1.96$). The findings were further supported by a p-value of 0.0157. This indicated that the null hypothesis

was rejected hence accruals influence the financial performance of pension funds in Kenya.

4.7 Influence of adherence to regulations on Financial Performance

The fifth objective of the study was to determine the moderating effect of adherence to regulations on the relationship between financing structure and performance of pension schemes in Kenya. Table 4.16 presents descriptive results of adherence to regulations in terms of means and standard deviations for all the firms for the period from 2012 to 2015. Based on the results, 2014 had the highest adherence mean of 0.5949 while in 2015, adherence to regulations was lowest at 0.4557.

Table 4.16: Descriptive Summary; Adherence to Regulations

	Year	N	Mean	Std. Deviation
Adherence to Regulations	2012	79	0.5063	0.50315
	2013	79	0.519	0.50283
	2014	76	0.5949	0.49404
	2015	79	0.4557	0.50122

4.7.1 Trend Analysis

Figure 4.6 indicates the trend of adherence to regulations compliance for the period from 2012 to 2015. The trend shows an improvement in compliance for the period between 2012 and 2014. This means that majority of the pension schemes were compliant with the set regulations. However, the trend indicates a decline in regulations compliance for the period from 2014 to 2015. This implies that majority of the pension schemes were non-compliant with the regulations. Noncompliance is likely to affect the overall performance of the pension schemes.

Hu, Stewart and Yermo (2010) reported that, in China, pension regulations on investments and governance resulted in more robust risk control mechanisms, better investor protection, more transparent information disclosure and subsequent stability of the pension funds. The current study trend findings show that majority of the pension funds in Kenya are not fully compliant with the regulation.

Based on previous literature by Hu, Stewart and Yermo (2010), it is evident that non-compliance or partial compliance is likely to affect the performance of pension funds negatively. However, the World Bank (2013) report shows that the major reason why many developing countries fail to optimise pension fund efficiency is the existence of many laws to which pension funds are obliged to subscribe. The report implies that non-compliance with some of the laws and regulations can actually serve to boost the pension funds efficiency. Based on findings from current and previous studies, we can deduce that compliance with regulations influences the performance of pension funds in Kenya either negative or positively.

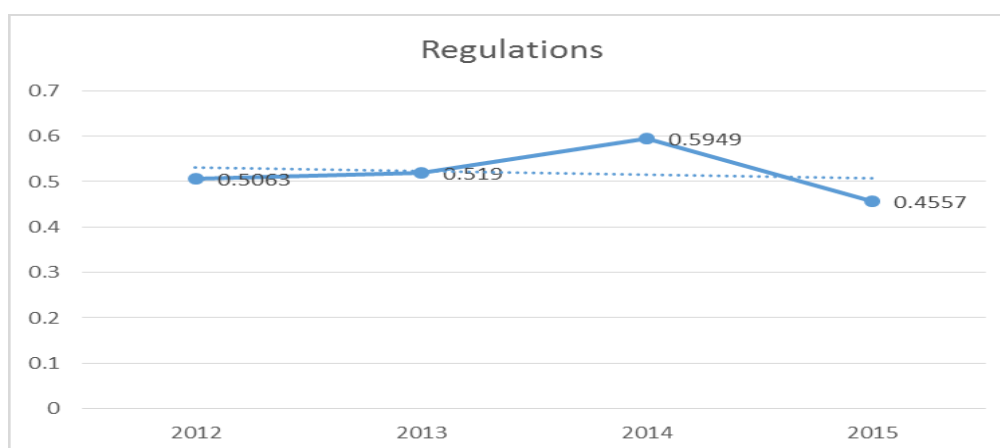


Figure 4.6: Annual trend for Regulations Compliance from 2012 to 2015

4.7.2 Correlation Analysis

Table 4.17 below presents the results of the correlation analysis. The results revealed that adherence to regulation and ROA are positively and significantly associated ($r=0.4192$, $p=0.000$). This implies that both accruals and performance change in the same direction.

Table 4.17: Correlation Matrix

	ROA	Adherence to Regulations
ROA	1.000	
Adherence to Regulation	0.4192*	1.000
	0.000	

* Correlation is significant at the 0.05 level (2-tailed).

4.7.2 Regression Analysis

In order to establish the moderating effect of adherence to regulations on the financial performance (ROA), a regression model was run and the results are presented in the table 4.18 below. The results present the fitness of model used of the regression model in explaining the study phenomena. Adherence to regulation was found to be a satisfactory variable in explaining performance (ROA). This is supported by coefficient of determination also known as the R square of 18%. This means that adherence to regulation explain 18% of the variations in the dependent variable which is performance of pension schemes. The results further mean that the model applied to link the relationship of the variables was satisfactory.

The analysis of variance (ANOVA) results indicate that the model was statistically significant. Further, the results imply that the adherence to regulations is a good predictor of performance. This was supported by an F statistics of 66.951 and a p value (0.000) which was less than the conventional probability of 0.05significance level.

Regression of coefficients results in table 4.18 shows that adherence to regulation and performance (ROA) are positively and significantly related ($r=4.291966$, $p=0.000$).

The study findings agree with that of Hu, Stewart and Yermo (2010) who showed that, in China, pension regulations on investments and governance resulted in more robust risk control mechanisms, better investor protection, more transparent information disclosure and subsequent stability of the pension funds. However, the findings disagreed with the World Bank (2013) report that concluded that the major reason why many developing countries fail to optimize pension fund efficiency is the existence of many laws to which pension funds must subscribe.

Table 4.18: Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Adherence to regulations	4.291966	0.524539	8.182361	0.0000
C	-0.000993	0.377882	-0.002628	0.9979
R-squared	0.175747			
Adjusted R-squared	0.173122			
F-statistic	66.951			
Prob(F-statistic)	0.000			

Therefore, the specific model was;

$$ROA = -0.000993 + 4.291966 \text{Adherence to Regulations}$$

4.8 Financial Performance

The dependent variable of the study was financial performance of the pension funds in Kenya. Table 4.19 presents descriptive results of financial performance in terms of means and standard deviations for all the firms for the period from 2012 to 2015. Based on the results, value of ROA was highest in 2013, $m=3.2687$ and lowest in 2015, $m=0.8332$.

Table 4.19: Descriptive Summary; Financial Performance

	Year	N	Mean	Std. Deviation
ROA	2012	79	2.811	6.19653
	2013	79	3.2687	5.39138
	2014	76	1.993	4.90487
	2015	79	0.8332	3.31917

4.8.1 Trend Analysis

Figure 4.7 indicates the trend of Return on Asset ratio of the 79 pension schemes for the period from 2012 to 2015. The trend shows an increase in the ROA ratio for the period from 2012 to 2013. This could be attributed to increased investments by the pension schemes. However, the trend reveals a constant decline in the ROA ratio for the period from 2013 to 2015. This could be associated with poor returns from investments, as well as lack of adequate investments by the pension schemes.

Pension funds perform various activities that are beneficial to both individuals and the economy at large. For instance the funds stimulate capital and financial market development through their substituting and complementary roles with other financial institutions, specifically commercial and investment banks (Meng & Pfau, 2010). As competing intermediaries for household savings and corporate financing (Impavido, Musalem, and Tresel, 2012), pension funds increase competition and may improve the efficiency of the loan and primary securities markets. Previous literature shows that pension funds play a critical role towards growth of the economy. However, based on the current trend results, we can conclude that the pension firms are not doing very well in terms of return on assets.

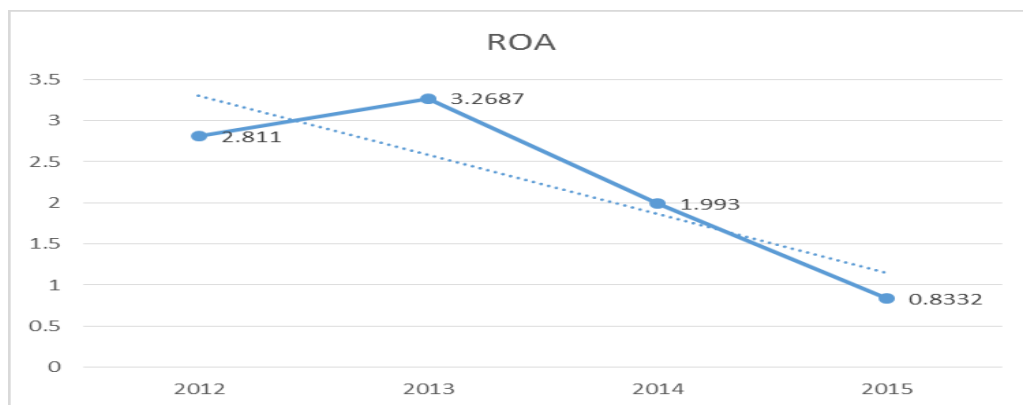


Figure 4.7: Annual trend for ROA from 2012 to 2015

4.9 Overall Correlation Analysis

Table 4.20 below presents the results of the correlation analysis. The results revealed that retained earnings and ROA are positively and significantly associated ($r=0.362$,

$p=0.000$). This implies that both retained earnings and performance change in the same direction. The results also revealed that amount of contributions and ROA are positively and significant associated ($r=0.171$, $p=0.0023$). This implies that both amount of contributions and performance change in the same direction. In addition, the results revealed that share capital and ROA are positively and significant associated ($r=0.338$, $p=0.000$). This implies that both the share capital and performance change in the same direction. Further, results revealed that accruals and ROA are positively and significantly associated ($r=0.135$, $p=0.015$). This implies that both accruals and ROA move in the same direction.

Lastly, the results revealed that adherence to regulations and ROA are positively and significant related ($r=0.419$, $p=0.000$). This implies that both adherence to regulations and performance change in the same direction.

Table 4.20: Correlation Matrix

	ROA	Proportion of Retained Earnings in Financing Structure	Proportion of Amount of Contributions in Financing Structure	Proportion of Share Capital in Financing Structure	Proportion of Accruals in Financing Structure	Adherence to Regulations
ROA	1.000					
Proportion of Retained Earnings in Financing Structure	0.363* 0.000	1.000				
Proportion of Amount of Contributions in Financing Structure	0.171* 0.002	0.052 0.353	1.000			
Proportion of Share Capital in Financing Structure	0.338* 0.000	0.359 0.000	0.100 0.074	1.000		
Proportion of Accruals in Financing Structure	0.135* 0.015	0.056 0.323	0.094 0.096	-0.013 0.817	1.000	
Adherence to Regulations	0.419* 0.000	-0.078 0.163	0.095 0.091	0.148 0.008	0.0037 0.547	1.000

* Correlation is significant at the 0.05 level (2-tailed).

4.10 Multivariate Regression Model without Moderation

4.10.1 Hausman Test

In order to determine whether the fixed or random effects model is appropriate Hausman test was used. The Hausman test fundamentally tested whether the unique errors (ui) are not correlated with the regressors.

The results in table 4.21 below illustrate the results of the Hausman test. A resultant p value of 0.0991 was larger than the conventional p value of 0.05 leading to the acceptance of the null hypothesis that the unique errors (*ui*) are not correlated with the regressors and thus the random effects model is more appropriate.

Table 4.21: Hausman Test

	(b)	(B)	(b-B)	sqrt(diag(V_b- V_B))
	Fixed	Random	Differen ce	S.E.
Proportion of Retained			0.00754	
Earnings in Financing Structure	0.062274	0.05472	9	0.00458
Proportion of Amount of				
Contributions in Financing			2.34E-	
Structure	2.68E-09	2.45E-09	10	4.18E-10
Proportion of Share Capital in			-1.17E-	
Financing Structure	1.49E-10	1.61E-10	11	2.31E-11
Proportion of Accruals in			1.22E-	
Financing Structure	2.85E-09	1.63E-09	09	3.86E-09
chi2(1)	2.72E+00			
Prob>chi2	0.0991			

4.10.2 Regression Analysis

In order to establish the influence of financing structure on the financial performance (ROA) of pension schemes, a multivariate regression model was run excluding the moderator (adherence to regulations) and the results presented in the table 4.22.

The results present the fitness of model used of the regression model in explaining the study phenomena. The independent variables were found to be satisfactory in explaining financial performance (ROA). This is supported by coefficient of determination also known as the R square of 21%. This means that the independent

variables explain 21% of the variations in the dependent variable which is financial performance of pension schemes. The results further imply that the model applied to link the relationship of the variables was satisfactory.

In statistics significance testing the p-value indicates the level of relation of the independent variables to the dependent variable. If the significance number found is less than the critical value also known as the probability value (p) which is statistically set at 0.05, then the conclusion would be that the model is significant in explaining the relationship; or else the model would be regarded as non-significant. Table 4.22 provides the results on the analysis of variance (ANOVA). The results indicate that the model was statistically significant. Further, the results imply that the independent variables are a good predictor of financial performance. This was supported by an F statistic of 20.86158 and a p value (0.000) which was less than the conventional probability of 0.05 significance level.

Regression of coefficients results in table 4.22 shows that retained earnings and performance (ROA) are positively and significantly related ($r=0.050272$, $p=0.000$). This finding agrees with Edom and Aganyi (2015) conclusion that accumulated profit retained in the business has the potential of boosting future earnings. It was therefore recommended that, corporate bodies should always retain profits in their business rather than distribute all of it to shareholders. The table further indicates that amount of contributions and performance (ROA) are positively and significantly related ($r=2.17E-09$, $p=0.0158$). Also, this result concurs with those of Okeyo (2016) who asserted that the density of contributions that pension funds receive from the contributors is a very important determinant of their performance.

Results also indicates that share capital and performance (ROA) are positively and significantly related ($r=1.69E-10$, $p=0.000$). Mwenda, (2011) also concluded that core capital is linearly related with profitability as measured using Return on Equity (ROE) across all the three tiers of banks, tier group one, tier group two and tier group three used in the study.

It was further established that accruals and performance (ROA) are positively and significantly related ($r=1.48E-08$, $p=0.0274$). This result agrees with the findings of Bloomfield, Gerakos and Kovrijnykh (2015) who estimated the firm-level rate at which working capital accruals convert into future cash flows. On the other hand, the study findings differ with those of Artikis and Papanastasopoulos (2016) who determined whether there is any relationship between current accrued earnings, growth in long-term net operating assets and future profitability for the companies listed on NSE.

Table 4.22: Regression Results without Moderation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
		0.01018	4.93425	0.00
Proportion of Retained Earnings in Financing Structure	0.050272	8	7	0
Proportion of Amount of Contributions in Financing Structure	2.17E-09	8.94E-10	2.42796	0.016
Proportion of Share Capital in Financing Structure	1.69E-10	3.96E-11	4.27293	0.006
Proportion of Accruals in Financing Structure	1.48E-08	6.68E-09	2.21582	0.027
C	1.345171	0.28157	4.77731	0.004
R-squared	0.2115			
Adjusted R-squared	0.2014			
F-statistic	20.86158			
Prob(F-statistic)	0.000			

Thus, the model before moderation was;

$$P_{pf} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots \dots \dots (1)$$

$$P_{pf} = 1.345171 + 0.050272X_1 + 2.17E-09X_2 + 1.69E-10X_3 + 1.48E-08X_4$$

Where,

P_{pf} is Financial Performance of Pension Funds

X_1 is Proportion of Retained Earnings in Financing Structure

X_2 is Proportion of Amount of Contributions in Financing Structure

X_3 is Proportion of Share Capital in Financing Structure

X_4 is Proportion of Accruals in Financing Structure

4.11 Multivariate Regression Model with Moderation

In order to establish the influence of financing structure on the financial performance (ROA) of pension schemes, a multivariate regression model was run including the moderator (adherence to regulations) and the results presented in the table 4.23 below.

The results further revealed that with moderation, retained earnings and performance (ROA) are positively and significantly related ($r=0.071792$, $p=0.000$). The results also indicate that amount of contributions and performance (ROA) are positively and significantly related ($r=4.07E-09$, $p=0.0213$). Results also indicate that accruals and performance (ROA) are positively and significantly related ($r=2.86E-08$, $p=0.0311$). However, results found no significant relationship between share capital and performance (ROA) as shown by a p value of 0.7161.

The regression with moderation (Ongore and Kusa, 2013) was conducted and yielded the following model fitness statistics. The R^2 was 0.237, which implies that 23.7% of the variation/changes in financial performance of pension funds (P_{pf}) was explained by the variations in the independent variables (Retained Earnings*Adherence to Regulations, Amount of contributions*Adherence to Regulations, Share capital*Adherence to Regulations and Accruals*Adherence to Regulations)

A comparison between the R^2 without moderation and R^2 with moderation revealed that the R^2 improved from 21% to 24%. This is an indicator that adherence to regulations moderates the relationship between financing structures and financial performance of pension funds.

Table 4.23: Regression Results with Moderation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1*Z	0.071792	0.010758	6.67328	0.0000
X2*Z	4.07E-09	9.43E-10	4.314336	0.0213
X3*Z	-3.21E-11	6.92E-11	-0.464027	0.7161
X4*Z	2.86E-08	9.03E-09	3.165898	0.0311
C	2.365824	0.401597	5.891044	0.0000
R-squared	0.237664			
Adjusted R-squared	0.225207			
F-statistic	19.27595			
Prob(F-statistic)	0.000000			

Thus, the model after moderation was;

$$P_{pf} = \beta_0 + Z (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4) + \varepsilon$$

$$P_{pf} = 2.365824 + 0.071792X_1*Z + 4.07E-09X_2*Z - 3.21E-11X_3*Z + 2.86E-08X_4*Z$$

Where,

P_{pf} is Financial Performance of Pension Funds

X_1*Z is Proportion of Retained Earnings in Financing Structure*Adherence to Regulations

X2*Z is Proportion of Amount of contributions in Financing Structure*Adherence to Regulations

X3*Z is Proportion of Share capital in Financing Structure*Adherence to Regulations

X4*Z is Proportion of Accruals in Financing Structure*Adherence to Regulations

Further, the results showed a higher coefficient value (0.071792) for retained earnings with moderation compared to coefficient without moderation (0.050272). The coefficient of amount of contributions (4.07E-09) with moderation was found to be greater compared to coefficient without moderation (2.17E-09). In addition, the coefficient of accruals (2.86E-08) with moderation was found to be greater than coefficient without moderation (1.48E-08). However, the coefficient of share capital (-3.21E-11) with moderation was found to be lesser compared to coefficient without moderation (1.69E-10).

The study findings concur with that of Hu, Stewart and Yermo (2010) who reported that, in China, pension regulations on investments and governance resulted in more robust risk control mechanisms, better investor protection, more transparent information disclosure and subsequent stability of the pension funds.

Overall, results indicate that adherence to regulations has a significant moderating effect on the influence of financing structure on the financial performance of pension funds in Kenya. This was supported by the overall p value of 0.000, which was less than the critical p value of 0.05. This implied the rejection of the null hypothesis: *H₀*: Adherence to regulations does not have a moderating effect on the relationship between financing structure and performance of pension schemes in Kenya

4.12 Summary of Hypotheses

This section presents the summary of hypotheses testing of the study variables. The rule of thumb was to reject the null hypothesis if the independent variable had a

significant relationship with the dependent variable. The significance was tested at a critical P value of 0.05.

Table 4.24: Hypothesis Testing and Discussion

Objective	Objective	Hypothesis	Rule	P-value	Comment
No					
Objective 1	To assess the influence of retained earnings on the performance of pension funds in Kenya.	H_{01} : Retained earnings do not significantly affect the financial performance of pension funds in Kenya.	Reject H_{01} if p value < 0.05	$p < 0.05$	The null hypothesis was rejected; therefore, Retained earnings significantly influence the performance of pension funds in Kenya.
Objective 2	To examine the relationship between the amount of contributions and performance of pension funds in Kenya	H_{02} : The amount of contributions does not significantly affect the performance of pension funds in Kenya.	Reject H_{02} if p value < 0.05	$p < 0.05$	The null hypothesis was rejected; therefore, amount of contributions significantly influence the performance of pension funds in Kenya.
Objective 3	To analyze the influence of share capital on the performance of pension funds in Kenya.	H_{03} : Share capital does not have any significant effect on the performance of pension funds in	Reject H_{03} if p value < 0.05	$p > 0.05$	The null hypothesis was not rejected; therefore, share capital does not significantly influences the performance of pension funds in Kenya.

Kenya.					
Objective 4	To establish the relationship between accruals and performance of pension funds in Kenya.	<i>H₀₄</i> : Accruals do not significantly affect the performance of pension funds in Kenya	Reject <i>H₀₄</i> if p value <0.05	p<0.05	The null hypothesis was rejected; therefore accruals significantly influence the performance of pension funds in Kenya.
Objective 5	To determine the moderating effect of adherence to regulations on the relationship between financing structure and performance of pension schemes in Kenya.	<i>H₀₅</i> : Adherence to regulations does not have a moderating effect on the relationship between financing structure and performance of pension schemes in Kenya	Reject <i>H₀₅</i> if p value of interaction term <0.05	p<0.05	The null hypothesis was rejected; therefore adherence to regulations moderates significantly the relationship between financing structure and performance of pension schemes in Kenya.

4.13 Optimal Model

Based on the results in Table 4.22 a model optimization was conducted. The aim of the model optimization was to guide in derivation of the final model (revised conceptual framework) where only the significant variables are included for objectivity. Results in Table 4.22 were arrived at through running multiple regressions with moderation.

Based on results in Table 4.23, share capital was dropped since it was found to be insignificant. The remaining variables were arranged in order of which one best explains the financial performance of pension funds. The R squared of each of the

variables was used as criteria. The ranking was as follows; retained earnings, amount of contributions and accruals.

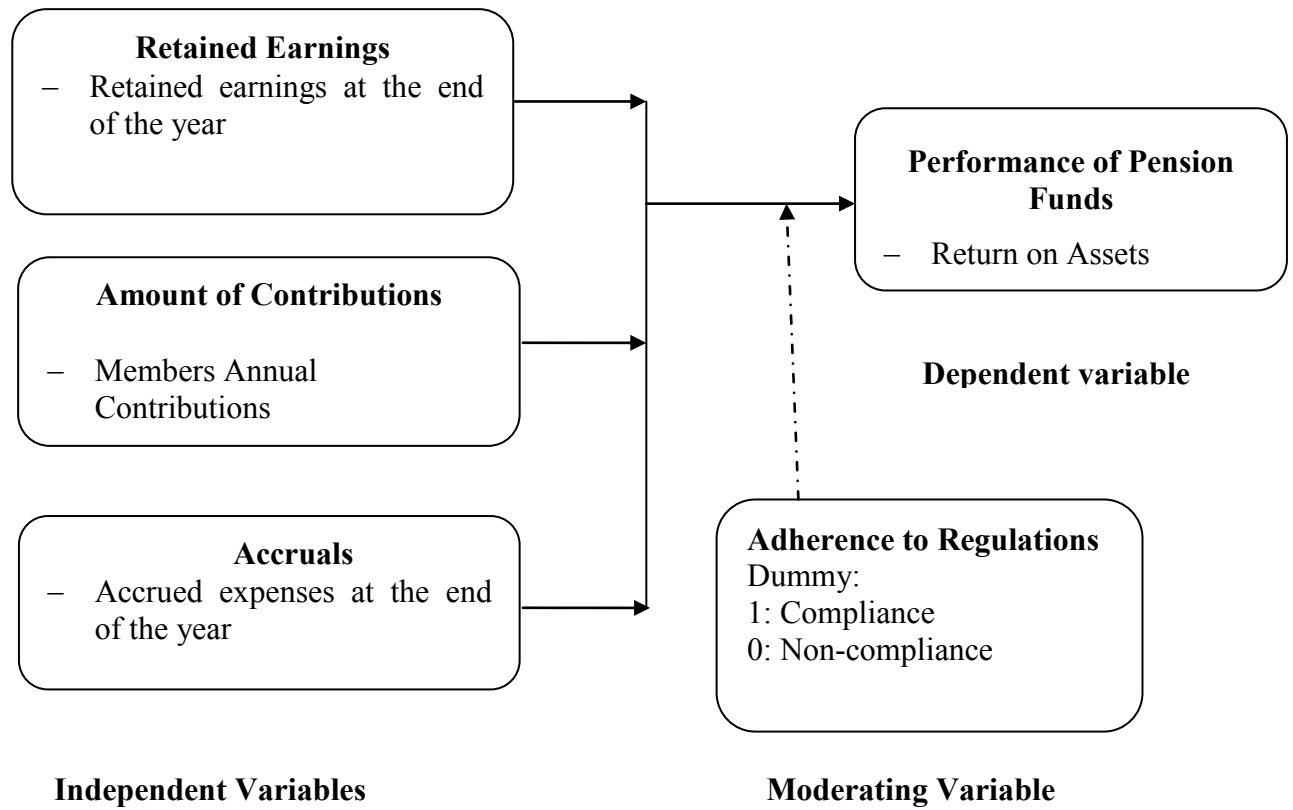


Figure 4.8: Revised Conceptual Framework

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter covers the summary of the findings, the conclusion and recommendations. This was done in line with the objectives of the study. Areas of further research were suggested and limitations of the study were taken into account.

5.2 Summary of Findings

This section summarizes the findings obtained in chapter four in line with the study objectives. In particular, the summary focuses on retained earnings, amount of contributions, share capital, accruals and adherence to regulations.

5.2.1 Retained Earnings

The first objective of the study was to assess the influence of retained earnings on the performance of pension funds in Kenya. The study findings revealed that retained earnings and performance of Pension Funds are positively and significantly correlated. This implies that an increase in retained earnings is associated with an increase in financial performance of pension funds. Similarly, the regression results revealed a positive and significant relationship between retained earnings and performance of Pension Funds in Kenya. This implies that an increase in retained earnings would increase performance of Pension Funds.

5.2.2 Amount of Contributions

The second objective of the study was to examine the relationship between the amount of contributions and performance of pension funds in Kenya. The study findings revealed that amount of contributions and performances are positively and significantly correlated. This implies that an increase in amount of contributions is associated with an increase in financial performance of pension funds. Similarly, the regression results revealed a positive and significant relationship between amount of

contributions and performance of Pension Funds in Kenya. This implies that an increase in amount of contributions would increase performance of Pension Funds.

5.2.3 Share Capital

The third objective of the study was to analyze the influence of share capital on the performance of pension funds in Kenya. The study findings revealed that share capital and performance are positively and significantly correlated. This implies that an increase in share capital is associated with an increase in financial performance of pension funds. Similarly, the regression results revealed a positive and significant relationship between share capital and performance of Pension Funds in Kenya. This implies that an increase in share capital would increase performance of Pension Funds.

5.2.4 Accruals

The fourth objective of the study was to establish the relationship between accruals and the performance of pension funds in Kenya. The study findings revealed that accruals and performance are positively and significantly correlated. This implies that an increase in accruals is associated with an increase in financial performance of pension funds. Similarly, the regression results revealed a positive and significant relationship between accruals and performance of Pension Funds in Kenya. This implies that an increase in accruals would increase performance of Pension Funds.

5.2.5 Adherence to Regulations

The fifth objective of the study was to determine the moderating effect of adherence to regulations on the influence of financing structure on the performance of pension schemes in Kenya. The study findings revealed that adherence to regulations and performances are positively and significantly correlated. Further, regression results revealed that adherence to regulations and performance had a positive and significant relationship. The moderation results showed that the interaction between the independent variables (retained earnings, amount of contributions, accruals) and moderating variable (adherence to regulations) was statistically significant. This

implies that adherence to regulations moderates the relationship between retained earnings, amount of contributions, accruals and performance of Pension Funds. However, the findings revealed that adherence to regulations do not moderate the relationship between share capital and performance of Pension Funds.

5.3 Conclusions

Based on the findings, the study concluded that there is a positive and significant association between retained earnings and performance of Pension Funds. The study also established that there is positive and statistically significant relationship between retained earnings and performance of Pension Funds in Kenya. The implication of the finding is that retained earnings play a significant role in enhancing financial performance of Pension Funds in Kenya. Retained earnings are therefore critical component of financing structure for Pension Funds in Kenya. From the results, an increase in retained earnings increases profitability of the Pension Funds firms.

The study concluded that there is a positive and significant association between amount of contributions and performance of Pension Funds in Kenya. It also established that there is positive and statistically significant relationship between amount of contributions and performance of Pension funds. The implication of the finding is that amount of contributions by members are paramount in increasing profitability of Pension Funds in Kenya. Member's contributions are therefore important part of the Pension funds' financing structure.

Based on the findings, the study concluded that there is a positive and significant association between share capital and performance of pension funds in Kenya. Further, share capital was found to have a positive and significant influence on performance of Pension funds in Kenya. The implication of the finding is that share capital is essential in boosting profitability of Pension Funds in Kenya. Share capital is therefore an important element of the Pension funds' financing structure.

The study concluded that there is a positive and significant association between accruals and financial performance of the pension funds. Further, it was established that accruals have a positive and significant influence on performance of Pension

funds in Kenya. The implication of the finding is that accruals are vital in enhancing profitability of Pension Funds in Kenya. As such, accruals are critical component of financing structure for Pension funds in Kenya.

Finally, the study concluded that adherence to regulations had a significant moderating effect on the relationship between retained earnings, amount of contributions, accruals and performance of Pension Funds in Kenya. The study, therefore, concluded that adherence to regulations moderate the influence of financing structure except share capital on performance of pension funds in Kenya. The implication of the finding is that adherence to industry regulations is critical in enhancing performance of Pension funds in Kenya.

5.4 Recommendations

The study recommendations are in line with the objectives, findings and conclusions of the study.

5.4.1 Retained Earnings

From the findings, retained earnings were found to have a positive and significant influence on financial performance of pension funds. Therefore, it was recommended that pension schemes in Kenya should always retain profits in their business rather than distribute all of it to shareholders. Also, that policy should be instituted by pension schemes whereby a high percentage of net profit is retained in the business.

5.4.2 Amount of Contributions

Following the study results, amount of contributions had a positive and significant influence on financial performance of pension funds. It was, thus, recommended that pension schemes in Kenya should formulate strategies on how to increase the amount of contributions that they receive from the contributors. Further, the pension schemes should be able to identify and explore profitable investment options.

5.4.3 Share Capital

From the study results, share capital was found to have a positive and significant influence on financial performance of pension funds. It was therefore, recommended that the government should address the problem of limited funding of the pension schemes. The government should do this by making legal provisions for a minimum level of guaranteed funds in the pension funds. At the same time, the pension funds must utilize the resources appropriately.

5.4.4 Accruals

From the study findings, accruals had a positive and significant influence on financial performance of pension funds. Thus, it was recommended that the pension funds management should find ways of shortening the cash conversion cycle, the receivable collection period. Further, the managers should consider extending the payables deferral period, which will lead to increase in profitability. However, the managers should be careful because extending the payables deferral could damage the company's credit reputation and harm its profitability in the long run.

5.4.5 Adherence to Regulations

Following the study results, it was recommended that pension schemes in Kenya should ensure that they adhere to the set regulations. Failure to comply with the regulations may results to financial implications in terms of penalties for noncompliance and huge losses from risk investment behavior and poor governance, and this is likely to have a negative effect on profitability. Further, the study recommended that regulation policies should be revised to ensure that they are not counterproductive.

5.5 Suggested Areas for Further Study

The study sought to assess the influence of pension schemes financing structure on performance of pension funds in Kenya. The R-squared obtained was too low explaining only 24% of the variation of the dependent variable. Therefore, an area

for further studies could consider other variables influencing the performance of pension funds in Kenya. Future researchers could also consider relationship between financing structure and performance of other finance institutions. The study has revealed high variability of the variables under study. This throws doubt on the proper control and management of the pension funds. Hence a study on the competence of the managers and senior staff is highly recommended. Future researchers could also consider introducing different variables other than adherence to regulations in testing for moderation effect of such variables on the influence of financing structure on performance of pension schemes. This is because as much as this study used this variable; there are other variables which may influence performance for example size of the organization.

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APPENDICES

Appendix I: Secondary Data

Scheme	Year	Proportion of Retained Earnings	Proportion of Amount of Contributions	Proportion of Share Capital	Proportion of Accruals	Adherence to regulations	ROA
1	2012	- 0.001748157	0.092880305	0.904142102	0.004725749	0	- 1.502122625
1	2013	0.519332846	0.043966499	0.434016176	0.002684479	0	- 1.824700765
1	2014	0.021804929	0.111409928	0.866785143	0	0	- 0.259884048
1	2015	0.442854201	0.069979013	0.484570918	0.002595868	0	- 1.899195268
2	2012	0.73111859	0.124474822	0.14376374	0.000642849	1	10.04397883
2	2013	- 0.000730499	0.194529649	0.78960305	0.0165978	0	- 1.625103574
2	2014	0.003243533	0.475294132	0.511184584	0.010277751	1	6.457875313
2	2015	0.110127144	0.887930883	0.001941973	0	1	4.680906585
3	2012	- 0.002942868	0.965552549	0.030376999	0.007013319	1	- 8.374074501
3	2013	0.019133273	0.231949871	0.693278019	0.055638837	1	7.719036699
3	2014	- 0.021998997	0.139590994	0.820355066	0.062052937	1	- 14.35380881
3	2015	0.020987669	0.167438455	0.811573875	0	0	- 2.211935974
4	2012	0.709318795	0.078349018	0.149989579	0.062342608	1	8.101458823
4	2013	0.201315821	0.132742295	0.519623499	0.146318385	1	6.463241131
4	2014	0.195220306	0.086969056	0.717810638	0	0	- 0.997490203
4	2015	0.293586919	0.051265269	0.600386363	0.054761449	0	-0.48257946
5	2012	0.135642948	0.608414001	0.018846922	0.23709613	1	14.87166312
5	2013	1.064905853	-0.060282421	- 0.004242134	- 0.000381298	1	- 5.84397303
5	2014	-2.60074E-05	0.036453338	0.698797088	0.264775582	0	- 0.964219983
5	2015	- 0.145625929	0.279578728	0.857556123	0.008491078	1	- 6.770296899
6	2012	0.052277378	0.132394331	0.643714362	0.171613928	0	- 0.953686546

6	2013	0.090220265	0.093167939	0.816611795	0	0	- 0.597533304
6	2014	- 0.041309541	0.137082483	0.903351099	0.000875959	0	- 0.043560331
6	2015	0.019284764	0.046593258	0.911201167	0.022920811	0	- 0.875690008
7	2012	0.191775245	0.043657756	0.727042351	0.037524649	0	-0.4234808
7	2013	0.074991298	0.110465324	0.814042691	0.000500687	0	-0.7386556
7	2014	0.08304565	0.107437684	0.779914347	0.029602318	0	-1.0722248
7	2015	0.015117537	0.070211065	0.895588666	0.019082732	0	-0.4817621
8	2012	0.02863015	0.053077962	0.917891768	0.00040012	1	11.83388713
8	2013	- 7.650348015	0.796827329	7.726790034	0.126730652	0	- 0.794812604
8	2014	-6.0531E-05	0.025308396	0.482331328	0.492420807	1	10.65829657
8	2015	- 0.139558893	0.121066694	1.018011882	0.000480317	0	- 0.377491941
9	2012	- 1.217729708	0.255647128	1.96155172	0.00053086	0	- 0.549474829
9	2013	0.028886101	0.115348987	0.656231741	0.199533171	1	11.2613322
9	2014	0.021016986	0.076700296	0.902083187	0.000199531	0	-0.61484689
9	2015	0.105004734	0.12299851	0.737890099	0.034106656	0	- 0.011313497
10	2012	0.343370835	0.106662148	0.5489657	0.001001317	0	- 1.682187299
10	2013	- 3.929171201	0.053909853	4.120357589	0.754903759	1	- 8.948662637
10	2014	0.03593405	0.525326962	0.438148591	0.000590397	1	7.102182854
10	2015	1.737239755	-0.020605652	-0.54722495	- 0.169409153	0	- 0.583695356
11	2012	- 0.000110253	0.175708403	0.562311829	0.262090021	1	- 7.302368616
11	2013	0.061573094	0.260468136	0.677449538	0.000509232	1	10.11508399
11	2014	0.056920696	0.153232125	0.789305528	0.000541651	0	- 0.637395762
11	2015	0.227381265	0.034576269	0.61052429	0.127518176	1	6.652022906
12	2012	0.002008396	0.291575632	0.704037618	0.002378353	1	11.1672284
12	2013	- 1.738837816	0.586291732	2.15121169	0.001334394	1	- 4.918456292
12	2014	-5.6956E-05	0.134183734	0.86154884	0.004324382	0	- 0.247957059
12	2015	- 0.072042345	0.068217119	0.991923951	0.011901274	0	- 0.013406384

13	2012	0.116664314	0.160465053	0.722870633	0	0	- 0.508268372
13	2013	- 1.433248379	1.890002984	0.537595954	0.005649441	1	5.87292968
13	2014	- 0.000158909	0.770197751	0.229585352	0.000375807	1	8.042252644
13	2015	1.35583009	-0.04561029	- 0.308781413	- 0.001438387	1	1.183171162
14	2012	0.97251086	0.001752887	0.022439739	0.003296513	0	- 0.703335056
14	2013	- 0.000133997	0.80920776	0.186293964	0.004632273	1	7.629908762
14	2014	0.009508864	0.625422038	0.182644839	0.182424258	1	7.427578708
14	2015	0.177154017	0.106172854	0.716588202	8.49274E-05	0	- 1.429840266
15	2012	0.081094056	0.092423656	0.792806809	0.033675478	0	- 0.591391418
15	2013	0.448889375	0.062180099	0.488930526	0	1	5.64115673
15	2014	0.307137961	0.075296628	0.542728467	0.074836944	1	3.77049025
15	2015	0.217259896	0.106168007	0.675364985	0.001207112	0	- 1.069006561
16	2012	0	0.180702809	0.805897032	0.013400159	0	0
16	2013	0.01153231	0.042084469	0.498056808	0.448326413	0	- 0.714982352
16	2014	0.026732542	0.064762283	0.902158808	0.006346368	0	- 1.146270209
16	2015	-2.12933E- 05	0.855326337	0.144694957	0	1	4.014237993
17	2012	0.620503419	0.00499251	0.047843209	0.326660862	0	- 0.382244181
17	2013	0	0.076415004	0.908822209	0.014762786	0	- 0.634953028
17	2014	0.786356271	0.021072972	0.183960285	0.008610472	0	- 0.715902219
17	2015	0.434111574	0.436889842	0.122141027	0.006857557	1	6.266999905
18	2012	0.025722446	0.08541538	0.885787196	0.003074978	0	- 0.432864539
18	2013	0	0.112728293	0.883031196	0.004240511	0	- 0.348170432
18	2014	- 0.042574003	0.086256418	0.948941373	0.007376212	1	0.666486891
18	2015	0.096353902	0.129637084	0.773659156	0.000349859	0	-

							1.304525395
							-
19	2012	0.020077088	0.12893166	0.848819455	0.002171796	0	0.911745887
19	2013	0.143928878	0.125563983	0.182263207	0.548243932	1	9.318035573
19	2014	0.005946893	0.815123323	0.178929784	0	1	9.02813589
							-
19	2015	0	0.096466789	0.800994859	0.102538352	0	0.799392621
							-
20	2012	0.814951979	0.035643695	0.149310669	9.36575E-05	0	0.810044717
							-
20	2013	0.110620923	0.148420693	0.737844354	0.00311403	0	1.139256177
							-
20	2014	0.853140147	0.127562692	0.001587256	0.017709906	0	0.596616442
							-
20	2015	0.174226171	0.809779632	0.00628284	0.009711356	0	0.918793006
21	2012	0.001039391	0.00131046	0.997510026	0.000140124	1	9.808186546
							-
21	2013	0.180526559	0.808040679	0.007051757	0.004381005	0	0.443940218
							-
21	2014	0.083097254	0.883678872	0.007740815	0.025483059	0	0.663199341
							-
21	2015	0.15749537	0.829695408	0.003174459	0.009634763	0	0.292775253
							-
22	2012	0.576823276	0.398715432	0.000313296	0.024147996	0	0.619747525
22	2013	0.052787613	0.006371044	0.940748036	9.33075E-05	1	18.67722615
							-
22	2014	0.932829395	0.065978696	0.000529474	0.000662435	0	0.568046562
							-
22	2015	0.622773716	0.043055617	0.000305861	0.333864806	0	1.359927305
23	2012	0.019620176	0.007026227	0.96926501	0.004088587	1	10.4635853
							-
23	2013	0.513864426	0.230999266	0.002287152	0.252849156	0	0.307583689
23	2014	0.000531779	0.012161236	0.987177585	0.000129399	1	7.238651525
							-
23	2015	0.364926174	0.630560749	0.004513077	0	0	1.930919691
24	2012	0.132133667	0.631376449	0.233843617	0.002646267	1	11.01002489
24	2013	0.000144941	0.004513074	0.99530873	3.32551E-05	1	6.903486339
24	2014	0.469082502	0.393747851	0.002761085	0.134408562	0	0
							-
24	2015	0.068980107	0.915198963	0.007179802	0.008641128	0	1.026826715
							-
25	2012	0.008685273	0.015521874	0.993013648	0.000149752	1	7.622964187

25	2013	0.000183698	0.023741721	0.975854942	0.000219639	1	6.214279684
					-		-
25	2014	2.228831329	-1.078218843	-0.01253152	0.138080966	0	1.373858629
				-	-		-
25	2015	1.433342049	-0.428569586	0.003289726	0.001482736	0	1.124277157
							-
26	2012	0.910785286	0.081195469	0.000965288	0.007053957	0	0.917691285
							-
26	2013	0.452422823	0.529777436	0.003951196	0.013848545	0	0.205894368
26	2014	0.241934613	0.714193051	0.003743125	0.040129211	0	0
							-
26	2015	0.130710289	0.864748254	0.004541457	0	0	1.136524473
		-					-
27	2012	0.044205313	1.036158959	0.007416141	0.000630213	0	0.235349137
27	2013	0.887995154	0.070535739	0.000734052	0.040735055	0	0
							-
27	2014	0	0.992634024	0.007365976	0	0	0.783015049
				-			-
27	2015	1.446632606	-0.443403304	0.003229302	0	0	-0.01529409
							-
28	2012	0.844079641	0.093135282	0.000556993	0.062228083	0	0.682981752
		-					-
28	2013	0.002019306	0.058195661	0.940463858	0.003359787	1	9.008417075
28	2014	-0.00782896	0.378613084	0.628909665	0.00030621	1	22.35626008
							-
28	2015	0.040264816	0.955485111	3.12406E-05	0.004218833	0	0.757317815
29	2012	0.373554056	0.614830719	0.007055621	0.004559604	0	-0.8880916
		-					-
29	2013	0.002472851	0.017956192	0.983225128	0.001291531	1	9.034560687
		-					-
29	2014	0.002850333	0.015600439	0.986567897	0.000681997	1	5.996071419
							-
29	2015	0.04166389	0.898391879	0.007217951	0.05272628	0	0.276850653
							-
30	2012	0.333479973	0.662163813	0.004356214	0	0	0.790706436
30	2013	0.001481473	0.006714818	0.991742304	6.14038E-05	1	8.069264283
30	2014	0.063618988	0.932611963	0.0007115	0.003057548	0	-0.97210471
							-
30	2015	0	0.994723632	0.005276368	0	0	1.456600238
							-
31	2012	0.538628278	0.426306055	0.002839154	0.032226514	0	0.375485305
31	2013	0.001896304	0.005606626	0.992206928	0.000290143	1	13.92490924

31	2014	0	0.006946539	0.993053461	0	1	9.378065921
							-
31	2015	0.364149967	0.616829823	0.004289142	0.014731068	0	0.771677747
32	2012	5.82555E-05	0.001506297	0.998268062	0.000167385	1	9.612070335
		-					
32	2013	0.000273782	0.006024859	0.994121389	0.000127534	1	11.12354586
		-					
32	2014	0.000313866	0.008213766	0.992100099	0	1	8.796236598
		-					
32	2015	0.018992855	0.958796795	0.005001406	0.055194654	0	0.534945279
		-					
33	2012	0.881223141	0.118145658	0.000631201	0	0	1.494701674
		-					
33	2013	0.000123235	2.20776E-05	1.000060703	4.04543E-05	1	6.50345715
33	2014	0.088191597	0.035707241	0.874724266	0.001376895	1	18.01052677
33	2015	0.000312313	0.00300595	0.996681737	0	1	5.660488024
		-					
34	2012	0.008318355	0.00184567	1.006058093	0.000414591	1	28.64961983
34	2013	0.002214733	0.037839251	0.959742116	0.0002039	1	10.41946901
34	2014	-0.0023289	0.018372999	0.983606994	0.000348907	1	10.20515291
		-					
34	2015	0	0.988930349	0.008217385	0.002852265	0	1.046257709
35	2012	0.004376911	0.010334621	0.985209633	7.88349E-05	1	10.43917735
		-					
35	2013	0.212811923	1.162669813	0.008845597	0.041296513	0	-0.58180846
		-					
35	2014	0.791760554	0.192659925	0.0050904	0.010489121	0	0.246763842
		-					
35	2015	0.002440525	0.001057109	1.001383416	0	1	5.647050286
		-					
36	2012	0	0.610261035	0.0090001	0.380738865	0	0.583897568
36	2013	0	0.005844688	0.994155312	0	1	10.83240265
36	2014	0.001145982	0.001887445	0.996689224	0.00027735	1	0.030251226
36	2015	0	0.016031164	0.983930101	3.8735E-05	1	7.66002549
37	2012	0	0.001669224	0.998189201	0.000141574	1	9.824157356
37	2013	0.000518439	0.004290139	0.99493123	0.000260192	1	7.085781629
37	2014	0.001157511	0.002638908	0.995434271	0.00076931	1	10.89360073
		-3.24335E-07					
37	2015	07	2.7659E-05	0.999886453	8.62128E-05	1	5.667500588
		-					
38	2012	1.09001212	-0.08646934	0.000746318	0.002796462	0	0.441744395
38	2013	0.000305893	0.003432759	0.995568316	0.000693031	1	8.400287287

38	2014	1.243980509	-0.21585874	0.001121565	0.027000203	0	0.296794746
38	2015	0	0.928984426	0.008235022	0.062780552	0	1.492199764
39	2012	0.218284848	0.774279234	0.00626039	0.001175528	0	0.391502846
39	2013	0	0.966416589	0.012931752	0.020651659	0	0.549132954
39	2014	1.245377593	-0.242991496	0.002386096	0	0	0.905230318
39	2015	0.000430386	0.002047192	0.998329148	5.40463E-05	1	5.411970231
40	2012	-8.14898E-05	0.00147926	0.998522472	7.97576E-05	1	12.71896783
40	2013	0	0.690003389	0.008503414	0.301493198	0	1.219273398
40	2014	0.011236053	0.002742508	0.985438247	0.000583192	1	8.13456255
40	2015	0.005624349	0.001473064	1.004151285	0	1	9.840712355
41	2012	0.416289051	0.578476066	0.005053365	0.000181517	1	0.838894738
41	2013	0.049615318	1.046800665	0.002814653	0	0	1.793976273
41	2014	0.54351526	0.450370555	0.00135753	0.004756655	1	0.344795801
41	2015	0.018984074	0.969510739	0.009544875	0.001960313	0	1.010058391
42	2012	0.873512913	0.090142906	0.000127723	0.036216458	1	1.959828633
42	2013	0.943481804	0.052964584	0.000533428	0.003020184	0	0.345032493
42	2014	0	0.86152228	0.006798486	0.131679233	0	3.809500384
42	2015	0	0.959186503	0.013072754	0.027740743	1	0.547736981
43	2012	0.002901353	0.001214282	0.99195484	0.003929525	1	0.975520494
43	2013	1.024885956	-0.022199465	0.000151414	0.002535078	1	0.909061735
43	2014	0	0.17748451	0.001685393	0.820830097	1	4.642382286
43	2015	0	0.989760787	0.010239213	0	1	1.701985034

44	2012	0	0.91517793	0.00761415	0.077207921	0	- 0.700124744
44	2013	0	0.152770124	0.001539697	0.845690179	1	- 1.147897309
44	2014	- 0.024983376	1.018158773	0.000225615	0.006598988	0	- 1.129641887
44	2015	0.420857936	0.574083653	0.005058412	0	1	- 0.708513846
45	2012	0.076908752	0.021316068	0.901010756	0.000764424	1	9.507725753
45	2013	0.427803581	0.571561705	0.000493197	0.000141517	0	- 2.042775782
45	2014	0.241123507	0.752654946	0.000618892	0.005602655	0	- 0.235623397
45	2015	- 0.465546949	0.832902401	0.016452409	0.616192139	1	- 0.541778766
46	2012	0.986591394	0.012903972	0.00042229	8.23443E-05	0	- 0.347178559
46	2013	0	0.972431855	0.010360993	0.017207152	1	- 0.301599127
46	2014	0	0.003884296	0.995322074	0.00079363	1	7.42889928
46	2015	0	0.947029126	0.008122141	0.044848733	0	-0.31641106
47	2012	0.883942731	0.114485985	0.001080632	0.000490652	0	- 0.922686116
47	2013	0	0.004242176	0.992731892	0.003025932	0	6.976897869
47	2014	0.66966344	0.257753852	0.002109754	0.070472954	1	- 0.528371152
47	2015	0.166448723	0.825007917	0.004971017	0.003572342	0	- 2.546578493
48	2012	- 0.250808562	0.555628878	0.005911168	0.689268517	1	- 0.312037289
48	2013	0	0.041785858	0.958151962	6.21802E-05	1	8.688854996
48	2014	0.917464024	0.07278587	0.000410747	0.009339358	0	- 1.408712932
48	2015	0.148902782	0.822715184	0.003168133	0.025213901	0	- 2.428168573
49	2012	0	0.969194867	0.005290282	0.025514851	0	- 1.646925178
49	2013	- 0.001848745	0.020977743	0.941565025	0.039305976	0	- 10.31248183
49	2014	-0.05762744	0.034111921	0.000460118	1.0230554	1	- 0.385461737
49	2015	-0.00034087	0.024485734	0.975634835	0.000220301	0	7.006822675

50	2012	0.301233351	0.658321002	0.003373872	0.037071775	1	- 0.419777326
50	2013	0	0.170901725	0.001760783	0.827337492	1	- 1.321732714
50	2014	0.331429064	0.131881698	0.000936366	0.535752871	1	- 0.278686975
50	2015	0.003142807	0.020693478	0.976139266	2.44487E-05	0	8.022173599
51	2012	- 0.173105723	1.059008186	0.018483632	0.095613905	1	- 1.657908868
51	2013	0.858142215	0.139386937	0.000934359	0.001536488	1	- 0.232482423
51	2014	0.849805541	0.142472594	0.001840108	0.005881758	1	0
51	2015	0.726043435	0.266574313	0.002773532	0.004608721	1	-0.90726384
52	2012	0.023026598	0.642007165	0.006884593	0.328081644	1	- 0.710004627
52	2013	0.000845501	0.009809956	0.989332827	1.17163E-05	0	8.89460898
52	2014	0.339865563	0.655066476	0.003955671	0.00111229	1	- 0.416056203
52	2015	0	0.992142937	0.007857063	0	1	- 0.765245243
53	2012	0	0.001637141	0.998307133	5.57263E-05	0	0.210962523
53	2013	0.983376637	0.016146898	9.0039E-05	0.000386426	0	- 0.194411652
53	2014	0	0.989477132	0.010522868	0	1	- 0.488725026
53	2015	0	0.49298556	0.011895272	0.495119168	0	- 0.684244772
54	2012	0	0.825259597	0.000100371	0.174640031	0	- 0.674197632
54	2013	- 0.000252948	0.000530751	0.99969699	2.52067E-05	0	9.090734867
54	2014	-8.00424E- 05	0.00045376	0.999626282	0	1	3.640091909
54	2015	- 0.058650651	0.989065279	0.02745203	0.042133342	0	-0.51984291
55	2012	0	0.00141401	0.997618632	0.000967358	0	16.71832407
55	2013	0.292528447	0.703618268	0.002159596	0.00169369	0	- 1.490839656
55	2014	0.794899257	0.204495427	0.00012611	0.000479207	1	- 1.308491341
55	2015	- 0.022153041	0.334417612	0.004891124	0.682844305	1	- 1.634222482

56	2012	0.114854231	0.853440492	0.010517978	0.021187299	0	- 0.241466478
56	2013	0	0.738997904	0.004689964	0.256312132	0	- 0.406068213
56	2014	0	0.931011561	0.025647044	0.043341396	1	- 0.657566964
56	2015	0	0.289070912	0.003856781	0.707072307	0	- 0.425947023
57	2012	0	0.977872253	0.014737482	0.007390265	0	- 1.596610439
57	2013	- 0.005817584	0.000681171	1.004998875	0.000137538	0	- 5.032727714
57	2014	0	0.805036302	0.018864207	0.176099491	1	- -0.49814074
57	2015	0.215696513	0.100842735	0.001427702	0.68203305	1	- 0.667991209
58	2012	-3.29854E- 06	0.009690761	0.990274177	3.83603E-05	0	- 12.41573388
58	2013	0.984223146	0.014280782	0.00014175	0.001354323	0	- 0.873830688
58	2014	0.953395961	0.016288796	0.011925664	0.01838958	1	- -0.16016567
58	2015	0.000313966	0.008275585	0.991153645	0.000256804	1	- 5.605152711
59	2012	0.992887754	0.003130078	0.003982168	0	0	- -0.53590113
59	2013	0.147821073	0.018447375	0.000446445	1.128927253	0	- 0.298763342
59	2014	1.259585558	-0.069074913	- 0.070826652	- 0.119683992	1	- 0.395282948
59	2015	0	0.53424763	0.329116251	0.136636119	1	- 0.791486011
60	2012	0	0.03629548	0.034259056	0.929445465	0	- 0.548145386
60	2013	0.025594503	0.972888412	0.000817858	0.000699227	0	- 15.46664931
60	2014	0.982210453	0.007073756	0.010715791	0	1	- 0.569082858
60	2015	0.75986573	0.032768929	0.035965182	0.171400158	0	- 0.293007118
61	2012	0.2490232	0.003614471	0.003098565	0.744263764	1	- 1.650072057
61	2013	0	0.064244662	0.044003432	0.891751906	1	- 0.254335788
61	2014	0	0.026154386	0.973845614	0	1	- 0.302136459
61	2015	0.986959871	0.007819203	0.003519802	0.001701124	0	-

							0.725200535
							-
62	2012	0.918243443	0.031290921	0.020823298	0.029642337	1	0.977015454
							-
62	2013	0.627207302	0.010417261	0.025371058	0.337004379	1	0.318067368
							-
62	2014	0.842997572	0.028581827	0.009432826	0.118987775	0	0.444606699
							-
62	2015	0	0.379089581	0.246344743	0.374565676	1	0.965000326
				-	-		-
63	2012	1.003369627	-0.001474068	0.001589004	0.000306555	1	0.393350087
							-
63	2013	0	0.544803372	0.411709047	0.043487581	1	0.500558239
63	2014	0	0.000427213	0.848702429	0.150870358	0	-0.45694636
63	2015	-0.10997766	0.143778625	0.966199035	0	0	11.66469268
							-
64	2012	0	0.012242736	0.987685674	7.15903E-05	1	0.385615612
64	2013	8.14729E-06	0.084157719	0.915831833	2.30158E-06	0	0.028940017
							-
64	2014	-3.13215245	0.090085912	4.042066538	0	1	0.480386982
							-
64	2015	0.826486875	0.001992027	0.171417706	0.000103392	1	0.476600269
							-
65	2012	0	0.006699377	0.991431335	0.001869288	1	0.407388789
							-
65	2013	0	0.013601077	0.940090312	0.04630861	0	1.000030839
							-
65	2014	0	0.005092797	0.62388802	0.371019183	0	0.216419184
							-
65	2015	0.976696565	0.000108958	0.022729977	0.000464499	1	0.875094182
				-	-		-
66	2012	14.95109615	-0.224605863	13.43655332	0.289936966	1	1.135616029
							-
66	2013	0	0.013541437	0.966902761	0.019555802	0	0.313403575
66	2014	0	0.640718765	0.359251221	3.00138E-05	1	5.801015871
		-					-
66	2015	0.065359442	0.007539894	1.02521308	0.032606468	1	1.682542168
							-
67	2012	0	0.005446775	0.989759505	0.00479372	0	0.267402306
							-
67	2013	0.254521643	0.005910595	0.739144161	0.000423601	0	0.625808515
67	2014	0	0.008142715	0.933371034	0.058486252	1	-

							0.783263432
67	2015	0.018042785	0.018294444	0.963648397	1.43729E-05	1	10.62960722
68	2012	0.006182197	0.129613666	0.844969369	0.019234767	1	1.147687168
68	2013	0	0.123362881	0.874514596	0.002122523	0	0.850543626
68	2014	0	0.491073937	0.503894014	0.005032049	1	5.95326579
				-	-		-
68	2015	1.003864136	-0.000275869	0.003426276	0.000161992	1	0.251885768
69	2012	0.043459844	0.018629507	0.928960768	0.008949881	1	-0.34860276
69	2013	0.002135525	0.091261002	0.905864455	0.000739017	1	10.57358313
69	2014	0	0.006532943	0.946710907	0.046756151	0	0
							-
69	2015	0.648510187	0.000952651	0.102435574	0.248101587	1	0.353652935
							-
70	2012	0	0.004948922	0.46188571	0.533165368	1	0.260325939
70	2013	0.023582899	0.004201753	0.972215347	0	1	10.7947804
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70	2014	0.125543985	0.007086615	0.82828776	0.03908164	0	0.561305725
							-
70	2015	0.008186185	0.011844339	0.99606246	0.000279386	1	0.401108486
							-
71	2012	0.976041077	0.000222897	0.014137771	0.009598256	0	3.142802027
							-
71	2013	0	0.001982541	0.093885786	0.904131673	1	1.166022735
							-
71	2014	0	0.019969655	0.927817505	0.052212839	0	0.287727202
71	2015	0.007168767	0.07518475	0.917092859	0.000553623	0	0.369592648
72	2012	0.097263453	0.042088328	0.858836521	0.001811698	1	0.225563965
							-
72	2013	0	0.117191228	0.787884077	0.094924695	0	0.003232664
72	2014	0.001259267	0.055657695	0.943083037	0	1	0.532750059
72	2015	0	0.060569783	0.939079912	0.000350304	0	1.646263628
73	2012	0	0.701829382	0.297646561	0.000524057	1	18.73010743
							-
73	2013	0	0.030797663	0.603911337	0.365291	0	0.507847173
							-
73	2014	0.298157722	0.089058803	0.60273792	0.010045555	1	0.259569715
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73	2015	0.916702313	0.005054414	0.038535643	0.039707629	1	0.597704528
74	2012	0	0.24775477	0.751153021	0.001092209	1	10.67565546
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74	2013	0	0.020368592	0.975088953	0.004542455	1	0.200400569
74	2014	0.000243391	0.027690462	0.972063231	2.91612E-06	0	0.185515587

74	2015	0	0.04781529	0.952180573	4.13718E-06	1	0.080833833
75	2012	0	0.047813659	0.951779563	0.000406778	1	0.686624617
75	2013	0.00041664	0.049517127	0.949790614	0.000275619	1	1.058343308
75	2014	- 0.013512046	0.040517043	0.95421118	0.018783823	1	0.301666326
75	2015	0.117281952	0.002998782	0.063408352	0.816310915	1	- 0.371088957
76	2012	0	0.053390012	0.52730578	0.419304208	1	- 0.764737585
76	2013	- 0.136634515	0.427202451	0.700438266	0.008993798	1	5.897302285
76	2014	0	0.040731772	0.959268228	0	1	0.301666326
76	2015	0	0.043155872	0.955833004	0.001011125	0	1.85303607
77	2012	0	0.570797754	0.045362663	0.383839582	0	11.57997394
77	2013	0	0.013944889	0.116187669	0.869867442	1	- 1.099925466
77	2014	1.011673845	-0.000244868	- 0.011428977	0	1	- 0.733211935
77	2015	0	0.104112271	0.757319059	0.13856867	1	- 0.345259951
78	2012	0	0.008123226	0.166588438	0.825288336	1	- 1.668982016
78	2013	0	0.014295579	0.985587007	0.000117415	1	6.77969429
78	2014	0	0.002226963	0.103941314	0.893831723	1	- 0.733211935
78	2015	0.909882825	0.004774834	0.079607345	0.005734996	1	-0.03803274
79	2012	0	0.002090143	0.860657801	0.137252056	1	- 1.264060533
79	2013	0.000342788	0.002383014	0.99721365	6.05479E-05	0	7.860006769
79	2014	0.717064488	0.0310008	0.251934712	0	1	- 0.224581871
79	2015	1.022639116	-0.003572501	- 0.018762098	- 0.000304517	1	- 1.255273593

Source: (RBA, 2016)