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Corporate Governance, Investment Strategy, Macroeconomic Variables and Financial Performance of Pension Schemes in Kenya

William Akwimbi[1], Duncan Ochieng[2], Josephat Lishenga[2, *]

[1]Department of Business Administration, University of Nairobi, Nairobi, Kenya
[2]Department of Finance and Accounting, University of Nairobi, Nairobi, Kenya
*Corresponding author

Abstract

The study investigated the impact of corporate governance (CG), investment strategy (IS) and macroeconomic variables on the financial performance of pension schemes in Kenya thereby addressing the key research question: What is the effect of CG, IS and macroeconomic variables on the financial performance of pension funds in Kenya? Qualitative, quantitative and correlational research designs were used to assess the effect of these factors on financial performance of pension funds. Quantitative data on annual return of pension funds and macroeconomic variables from 2012 to 2020 as well as qualitative data on CG indicators and IS were used in the study. Return on investments proxied pension fund performance. Primary data was collected using survey questionnaires from the pension schemes from both the CG and IS indicators to develop both CG and IS indices. The findings show that CG as well as IS and macroeconomic variables impact differently pension funding. Effect of CG indicators on pension performance was positive and significant. The intervening effect of IS on the link between CG and pension performance was significant while the moderating effect of macroeconomic variables was significant. The individual contribution of both CG indicators and macroeconomic factors on pension performance, nonetheless varied. The main conclusion of the study is that pension fund financial performance is influenced by CG, IS and macroeconomic factors implying that there is need to take into account the impact of these factors in the execution of investment plans of pension funds to ensure generation of adequate funds for retirement benefits.

Keywords: corporate governance, investment strategy, financial performance, macroeconomic factors

1. Introduction

1.1. Background of Study

Financial Performance indicates how well a firm utilizes its assets to make the most of the owners' wealth and profitability, a key aspect of financial risk management. Farah, Ijaz and Naqvi [1] discern that financial performance is a complete evaluation of a firm's overall standing in assets, liabilities, equity, expenses, revenue, and profitability indicating the whole financial health of the organization over a given period of time. Previous financial literature has not yet come to a definitive conclusion as to what firm factors determine their performance during any state of the economy (Rumelt, 1991). Studies by Hawawini, Subramanian, and Verdin [2] argue that industry or external firm factors play a more important role in dictating the influence of firm performance. Others by Opler and Titman [3] suggest that firm specific (internal) factors seem to be the major

determinants of the operating performance, and are the main drivers for competitive advantage which is crucial for surviving economic downturns.

The Retirement Benefits Industry plays a major role in the world economy. Studies by Heijdra, Ligthart and Jency [4]; Watson [5]; and Yermo [6] highlighted their significance by showing that they contribute immensely to growth and development of world economies through provision of retirement benefits, growth of financial services as well as development of capital markets. The OECD, for instance established in 2017 that assets in Retirement Benefits Schemes amounted to 50.7% of GDP in the OECD countries and 19.7% of total GDP in the non-OECD countries. In Kenya, the Retirement Benefits Assets as a percentage of GDP stood at 14.4% [7].

In recent, years, corporate governance has attracted much attention following increased cases of high-profile scandals and the catastrophic failures and losses of giant companies worldwide. Kaur and Suveera (2009) reports that such scandals included the Bank of Credit and Commerce International (BCCI) of 1991 and the Maxwell Pension cases in the UK; the Enron and WorldCom cases

in the US; as well as the Satyam, Reebok and the Sahara cases in India. The 2007-08 collapse of the subprime mortgage markets and regional market crisis particularly the 1997 Asian financial crisis and the 2008 Global financial crisis further highlighted the significance of good governance (Nam and Nam, 2004) [8]. The authors opine that the cases involved unethical conduct, abuse of corporate power and alleged criminal activity by key managerial personnel.

Subsequently a number of pension funds worldwide declined in their financial performance as indicated by major reductions in pension fund assets [9]. Besley and Prat [1] argues that the later development exacerbated the threat of pension funds failing to provide retirement income. Similarly, various challenges were witnessed in Kenya in the past two decades thet included operational malpractices, misappropriation of scheme funds, imprudent asset management, low coverage, unfunded liabilities, lack of transparency, and weak enforcement of pension laws, worsened by the deteriorating economy.

It is noted that the impact of corporate governance, investment strategy and macroeconomic factors on financial performance of pension funds is widely studied in developed economies but there is a clear gap in developing countries like Kenya necessitating further research in the subject. The article is organized as follows under introduction: Literature review on Corporate Governance, investment strategy, macroeconomic factors, Financial Performance, Pension Schemes in Kenya, Research problem and objectives.

1.1.1. Corporate Governance

Carmichael and Palacios [10] defined Corporate governance as systems and processes by which organizations attain their undertakings with the goal of mitigating conflicts among their stakeholders and get the best out of their wellbeing. The International Organization of Pension Supervisors (IOPS) (2008/9) described pension governance as the framework by which the management makes decisions about the pension fund's activities that encompass the formation of the board; the decision- making processes within the board; the required skills of the board; and the means by which the board is held responsible to shareholders.

Maher and Andersson [11] are of the view that a major component of improving performance of pension funds is the application of corporate governance (CG) principles which influences the development and functioning of capital markets and influences resource allocation. It impacts upon the behaviour and performance of firms, innovative activity, entrepreneurship, and the development of an active small and medium enterprises (SME) sector. In an era of increasing capital mobility and globalization, the authors aver that CG has become a crucial factor impacting industrial competitiveness of OECD countries. Besides, they note that it reveals itself in firm's better financial performance.

Similarly, Shamim, Kumar and Soni [12] avow that improved integrity and efficiency of firms as well as capital markets has an association with good CG. The authors observe that poor CG deteriorates company's potential leading to malpractices and declined performance. Moreover, they discern that firms

implementing best CG practices raise capital easily and are more profitable and competitive as they reduce many risks that arise from daily operations. Bushee, Carter and Gerakos [2], as well as Leuz, Lins and Wamock (2007) support the assertion that investors exhibit preference for well-governed firms.

Another scholar, Chow [8] argues that a firm's governance practices determines its behavior which subsequently impacts its stock market value. Equally, Shleifer and Vishny [13] and Watson [5] show that governance has a link with increased investor confidence, decline in fraud, reduction in regulation costs and increase in Growth Domestic Product (GDP) of countries. Donaldson et.al, [8] nonetheless, observes that no globally accepted governance principles that safeguards and promote shareholders' assets exist meaning that their use varies across countries. Some vital components of good corporate governance identified by Bhasin [7] comprise accountability, transparency, rule of law, inclusivity and disclosure.

Palacios [14] is of the view that governance is crucial to pension schemes as indicated by the increase in reported high profile cases of governance failure and misconduct following an upsurge in regional market crisis and large corporate failures such as the the Asian Financial crisis of 1997, the collapse of both the Enron Corporation in the US and the Swissfirst affair of Pensionskassen in Switzerland. The question that arises then is where were the regulators? It's a fair question after the failure of several ostensibly supervised financial institutions and companies as policymakers are once again set out to make the financial system less crisis-prone. Even so, there is an equally pressing question to answer: where were the directors? The collapse of these institutions suggests serious lapses of oversight not just from regulators but at the board level.

The Agency theory of Jensen and Meckling [15] looks at management of companies as agents whose interest may depart from those of the principals who are the shareholders. Since both parties are utility maximizers, the authors avow that the agent or the principal will choose the option that increases his or her individual utility given the choice between the two alternatives. They thus suggest that the decline in value of pension assets can be reduced by Governance practices that help to reduce agency problems. Eisenhardt [16] affirms that the main focus of good governance is the implementation of contracts that result in improved business performance and decrease risk while David and Impavido [17], opine that the theory encourage agents to act in the interest of shareholders as well as reduce them from acting inaptly.

Policy makers in a number of countries endeavored to mitigate flaws in governance through a number of measures that included legal and regulatory instruments besides voluntary codes and principles such as the Sarbanes Oxley Act (SOX) of 2002 in the US, the Cadbury Code in the UK, Cromme Code in Germany as well as the Code of CG in Pakistan. In Kenya there was the enactment of the Retirement Benefit Authority (RBA) Act Cap 197 of 1997 besides, the Mwongozo Code of Governance for State Corporations [12]

Despite these efforts, CG flaws persist globally resulting in poor performance of a several pension funds,

posing the question: why are governance reforms not protecting retirement benefits? Could there be other factors influencing pension performance? There is limited empirical evidence of the impact of CG on financial performance of pension funds in developing countries hence the need for further studies.

1.1.2. Investment Strategy

Investment strategy is defined by Bilaus (2010) as a set of guidelines that help investors choose assets in a portfolio based on investment objectives and tradeoff between risk and return. Stanko (2002) explains it as a mixture of investment assets made by pension funds. Tonks (2006), observes that investment strategy plays a crucial role in portfolio management which forms part of the huge global investment management industry where pension assets are a significant part.

Obermann (2005) observes that the investment process of pension funds faces many challenges including inflation, market, credit, and solvency risks as well as governance, agency, legal and regulatory risks that all lead to poor pension performance. This is compounded by the fact that pension schemes are long-term saving vehicles in which the savings cannot be accessed until retirement in contrasts with other saving schemes. Managing these risks is therefore critical for ensuring their sustainability hencey, it is critical that the investment function is managed responsibly. Tan and Luo (2021) argue that investment decisions are key to the financial performance of pension funds. In agreement, Liu and Zhang (2020) proposes that planned investments must be evaluated and adjusted to the level of risk and expected return of shareholders. Empirical evidence from studies by Af¸sar and Karaçayir [18], Al Daas et al. (2020), Pramartha et al. (2020), and Susanti et al. (2019) support the notion that investment decisions influence firm value.

Rudolph et al. (2010) observe that the type of pension schemes vary in the risks they are exposed to. Pension reforms have however, been undertaken since the early 1980s, moving from defined benefit (DB) systems and unfunded pay-as-you-go systems (PAYG) to arrangements in which the provision of pensions is backed by assets in schemes. The later have increasingly linked retirement incomes to the performance of these assets. The authors note that the type of risk determines the investment strategy to be used to mitigate them.

The Markowitz's (1952) Modern Portfolio Theory (MPT), the Efficient Frontier is the main investment theory that allows investors to assemble assets of a portfolio that maximizes expected return for a given level of risk. MPT, a portfolio management tool is based on the mean-variance efficiency for assets allocation and assumes that investors are risk-averse; for a given level of expected return, investors will always prefer the less risky portfolio. MPT is based on diversification which is a portfolio allocation strategy that aims at minimizing idiosyncratic risk by holding assets that are not perfectly positively correlated. It is based on the principal that owning a portfolio of assets from different classes is less risky than holding a portfolio of similar assets.

MPT identifies two types of risk, the idiosyncratic risk and systemic risk. Idiosyncratic risk is specific to each asset whereas systematic risk is one that is common to the entire market. Diversification cannot lower systematic risk because all assets carry this risk. The MPT hypothesizes that diversifiability of idiosyncratic risk has a relationship with the expected rates of return on assets through optimal portfolio selection. It provides a framework to select the best combination of assets having minimum risk. In line with the MPT, Tonks (2006) affirms that there is an association between investment strategy used and performance of pension funds.

Sharpe [19] established that asset allocation accounts for a large part of the variability in the return on a typical investor's portfolio. In agreement, Elton, Gruber and Blake (1996) are of the view that it is possible to outperform the S&P 500. Sharpe [19] and Ippolito and Turner (1987) nonetheless, found that actively managed funds on average underperform the Index, net the costs. Similarly, Bogle (2002) shows that the Index performs better than the active managed portfolios in most cases. The results are in line with Fama's [20] Efficient Markets Hypothesis (EMH), which states that financial markets are highly efficient and that prices of stocks fully reflect all available information, making it impossible to beat the market. Thus, the mixed results create a need for further research. Locally, empirical literature is limited on effects of investment strategy on pension performance.

To improve portfolio management, the OECD developed guiding principles on Pension Fund Asset Management that include setting pension fund objectives; prudential principles; prudent person standards; investment policy; portfolio limits; and valuation criteria of pension assets [21].

1.1.3. Macroeconomic Factors

Macroeconomic factors are described by Brinson et al. (2009) as factors such as financial, natural, or geopolitical events that broadly impact either positively or negatively regional or national economy, affecting a large population and are uncontrollable and beyond but have a link to the state of the economy and government policy. Such factors include Gross Domestic Product, changes in interest rates, inflation rates, and unemployment rate. In addition, there exists natural disasters such as earthquakes, changes in money supply as well as civil or international war that are meticulously observed by investors.

Scholars such as Khaparde (2014) and Kahraman (2011) are of the view that financial decisions such as investment, financing, working capital or dividend choices whose goal is wealth maximization, differ from one company to the other and are influenced by the prevailing macroeconomic factors. In concurrence, Kahraman (2011), Liu and Pang [22] affirm that investors select assets in a portfolio based on these factors to improve portfolio performance.

The Arbitrage Pricing Theory (APT) by Ross [23] suggests that there is an association between financial position of firms and macroeconomic variables such as change in GDP, interest, inflation and exchange rates among others. The theory offers a multifactor pricing model for securities by proposing that the return of securities is a linear function of these factors.

A number of scholars in developed countries and EME including Fama [20]; Clare and Thomas [24]; Mookerjee and Yu (1997); Kwon and Shin (1999); Humpe and Macmillian (2007); Bodie et al. (2008); and Pilinkus

(2010) examined the impact real GDP, industrial production, lagged inflation and interest rate on stock performance. Their results indicated that these factors had a significant impact on portfolio performance. Studies in a developing country by Olweny and Omondi [25] and Ochieng and Oriwo [26] investigating the relationship between firm performance and the Nairobi Securities Exchange (NSE) Index revealed that a significant link between the two variables exist. Chelangat (2014) observed that these factors are closely monitored by businesses, governments and pension funds.

1.1.4. Financial Performance

Financial Performance is a measure of a company's overall financial health over a given period of time (Grabenwarter & Weidig (2005); [9]. According to the authors it shows how well a firm utilizes its resources to maximize the shareholders wealth and profitability. Other scholars refer to it as the degree to which fiscal objectives have been met. Walker and Iglesias [27] asserts that evaluation of portfolio performance is undertaken to determine whether portfolio managers add value compared to passive investment strategies that are indicated by well diversified benchmarks. This however, is negated by Fama's [20] Efficient Markets Hypothesis which, suggests that it is impossible to beat the market consistently on a risk-adjusted basis as asset prices fully reflect all available information. The measurement nonetheless, remains a key aspect of financial risk management.

Carton (2004) argues that performance measurement is crucial in the effective and efficient management of firms, particularly in the enhancement of its processes to boost their total value. Kuratko and Morris (2003) however, note that business environments have uncertainties that influence firms' performance. Cheema and Din (2013) observe that pension schemes performance is evaluated by stakeholders including policymakers, investors and fund to measure and compare the efficiency of the investment.

Tapia (2008a,b) as well as Ijaz and Faizan (2016) opine that a complete evaluation of a firm's financial performance entails the examination of such measures as financial ratios particularly, liquidity, solvency, profitability and valuation ratios; analysis of trends, market value, average annual returns and standard deviations. The authors aver that ratios express the numerical relationship between two or more variables and are crucial in determining the degree of improvement of the financial position of a firm relative to that of other firms in the same industry.

Accounting-based performance metrics are also used to evaluate firm's financial performance.. They are a type of return on investments such as Return on Equity (ROE) and Return on Assets (ROA). Return on Assets is a ratio that shows how well a company is performing by comparing the profit it is generating to the capital it has invested in assets. It thus measures the profitability of a business relative to its total assets. In contrast, Return on Equity is a measure of a company's profitability that reveals how much profit a company generates with money that shareholders have invested in it. It looks at the firm's bottom line to gauge overall profitability for the firm's owners and investors. Stockholders are at the bottom of

the pecking order of a firm's capital structure, and the income returned to them is a useful measure that represents excess profits that remain after paying mandatory obligations and reinvesting in the business. There is also market based measures such as Tobin Q (Daily & Dalton, 1993; Hermalin & Weisbach, 1991 and Lam & Lee, 2008).

Pension funds performance can be examined using risk adjusted performance measures comprising Sharpe's, Sortino's and Treynor's ratios which quantify the ability of pension fund managers to deliver an active management risk premium, with respect to benchmarks. The ratios assess fund returns but incorporate measures of risk. Sharpe's ratio shows how well the return of an investment compensates for the risk investors take. The higher the Sharpe ratio the better it compensates for risk. The grading threshold of the ratios are provided as: i) <1 – Not good; ii) 1-1.99 – OK; iii) 2-2.99 – Really good; and
iv) >3 – Exceptional [19], where Return on assets/portfolio = Net Income ÷ Average total assets.

$$Sharpe's\ ratio = \frac{Return\ of\ a\ portfolio\ (R_P) - Risk\ free\ rate\ (R_F)}{Standard\ deviation\ of\ portfolio\ s\ excess\ return(s_P)}.$$

Fama and French (1996) aver that the risk-adjusted performance measures have a major weakness of aggravating the herding behaviour around the mean manager. Moreover the benchmark used such as the Market Index for comparison may be unsuitable.

1.1.5. Pension Schemes in Kenya

A Pension scheme is long term saving plan that is a legally binding contract with an objective of providing benefits to persons on retirement, on death, on having reached a particular age, on the onset of serious ill-health or disability, survivors benefits or in similar circumstances [21]. Schemes are classified into various categories. The OECD using the multi-pillar approach identified three types: the First pillar, publicly managed pension schemes; the second pillar and the third Pillar. The first pillar comprise Defined Benefits and Pay-as- You-Go schemes which are financed based on a payroll tax. The second pillar include privately managed pension schemes that are provided as part of an employment contract while the third pillar encompass personal pension plans that form saving and annuity schemes. Private schemes are managed by fund managers and insurance companies.

Retirement Benefit schemes may further be categorized based on two approaches: functional and institutional approaches resulting to plans being either public or private; occupational or personal; Defined Benefit (DB) or Defined Contribution (DC); funded or unfunded. In Kenya classification of pension schemes is based on the multi-pillar approach of Pillars I, II and III. Pillar I comprise the Public Service Pension Scheme and the National Social Security fund (NSSF). Pillar II comprises Occupational pension schemes while Pillar III includes Individual retirement benefit plans. In 2020 there were a total of 1,268 occupational pension plans, 41 individual pension schemes and 32 Umbrella Retirement Benefits schemes in Kenya. The later plans comprised pooled companies that found it was not financially feasible to create their own pension schemes.

The pension industry in Kenya was largely unregulated prior to 1997 and lacked wide-ranging policy frameworks for nurturing sustainable social protection programmes. Following the challenges facing the industry, the government in 1997 took the initiative to restructure the sector to address these and emerging issues by enacting the Retirement Benefit Authority (RBA) Act Cap 197. The Act's main purpose was to establish the RBA whose main function is to oversee the growth and development of the retirement benefits schemes and sector in the country. Despite this noble development, the financial performance of pension schemes in Kenya nonetheless, continued to face major challenges ranging from operational malpractices, misappropriation of scheme funds and lack of transparency, resulting in declined pension assets.

1.2. Research Problem

For the last decade, Pension industry in Kenya has been faced with a major problem of raising adequate funds to provide for retirement benefits to its members. Rumelt (1991) reports that previous financial literature has nonetheless, not yet come to a definitive conclusion as to what factors determine pension performance.

Studies by Opler and Titman [10] suggest that firm specific or internal factors such as corporate governance, investment strategy seem to be the major determinants of the operating performance, and are the main drivers for competitive advantage, crucial for surviving economic downturns. Yang and Mitchell [27], Manuel and Andreas [28] and Clark and Urwin (2008) similarly established a link between good governance practices and firm financial performance. In contrast, Daines and Klausner (2001); Coles, et al. (2008); Bhagat and Black (2002) found mixed and inconclusive results on the association between corporate governance and pension fund financial performance. Disharmony on the empirical results on the subject makes the issue current necessitating further research to enable a better understanding of the association among the study variables.

The importance of corporate governance in the pension industry has come to light of late following both regional and international market crisis and large corporate failures. Kuepper (2019) for instance reports that the Asian Financial Crisis of the "Tiger economies" of 1997 resulted in their capital markets and currencies lose 70% of their values. Similarly, Amadeo (2019) as well as Antolín and Stewart [29] aver that the Global Financial Crisis of 2008 resulted in the great recession leading to an estimated loss of US $5.4 trillion or about 20% of the value of pension assets in OECD countries. A fair question after the failure of several ostensibly supervised financial institutions is: where were the regulators? This is the question that Policymakers are making as they set out, to make the financial system less crisis-prone. Even so, there is an equally pressing question to answer: where were the directors? The collapse of these institutions, suggests serious lapses of oversight not just from regulators but at the board level.

In Kenya, a number of challenges affected the pension industry. They included lack of transparency, operational malpractices, misappropriation of scheme funds such as

the loss of KS 295 million held in trust account of the Kenya Medical Research Institute pension fund (Naftali, 2005) as well as the loss of the KS 700 million through illegal purchase of assets by Kenya Ports Authority (KPA) Retirement Benefits Scheme. The situation was worsened by deteriorating performance of the economy. Despite enactment of the RBA Act Cap 197 in 1997 that was to provide oversight on the growth and development of the pension industry in the country, pension challenges persisted with a number of pension schemes under-performing due to accounting scandals and poor governance.

Other studies have shown that there are other factors determining pension performance such as investment strategies and macroeconomic factors. The issue of application of investment strategies to manage risks was highlighted by the recent Global economic turmoil that resulted in declined pension fund performance. Ross [23] and Brinson et al. (1991) are of the view that macroeconomic factors play a major role on pension financial performance, hence a critical consideration by institutional investors when it comes to assets under management.

In Kenya, a limited number of studies have been carried out on the subject resulting in inadequate empirical evidence. They were based on different methodologies and most were focused on other sectors of the economy. Mutegi [30] and Njuguna [31] for instance established that various CG practices influenced pension performance. However, they never investigated the effect of intervening or moderating variables on the above relationship. Olweny and Omondi [25], Ochieng and Oriwo [26] in addition to Osoro (2015) investigated and established that interest and inflation rates, money supply, and real GDP impacted either positively negatively on stock returns and growth of the Nairobi Stock Exchange (NSE). Nevertheless, none of the studies examined the effect of unsystematic risk factors nor the impact of multiple factors on pension performance. The study therefore seeks to investigate factors influencing pension performance in Kenya.

1.3. Research Objectives

The main purpose of the research was to investigate the impact of corporate governance, investment strategy and macroeconomic factors on retirement benefit schemes performance in Kenya. Specifically, the study sought to:

1. Assess the impact of corporate governance on pension funds performance in Kenya.
2. Evaluate the influence of investment strategy, an intervening factor on the link between corporate governance and retirement benefit schemes performance in Kenya.
3. Investigate the impact of macroeconomic variables, moderating factors, on the link between corporate governance and pension funds performance in Kenya.
4. Examine the combined effect of corporate governance, investment strategy and macroeconomic variables on pension performance in Kenya.

2. Literature Review

2.1. Introduction

Literature on finance of pension systems tends to converge on the view that there is need to enhance financial solvency of these schemes. The chapter reviews both empirical and theoretical literature on the relationship between financial performance of pension schemes and multiple factors including corporate governance, investment strategy and macroeconomic variables.

2.2. Theoretical Foundation of the Study

The main theory anchoring the study is the Agency Theory. The research was nonetheless, supported by three other theories: The Modern Portfolio Theory (MPT), the Stakeholders Theory (SHT), and the Arbitrage Pricing Theory (APT).

2.2.1. The Agency Theory

The Agency theory (AT) explains the relationship between the principal who employs another party the agent to work on its behalf in an organisation [15]. The authors argue that the agent may not act in the principal's best interests due to the separation of ownership and control. Demsetz and Lehn (1985) states that this necessitates protection of shareholders' interests, minimise agency costs and align principal-agents interest. The AT states that agents and principals, who are considered as rational actors, pursue the objective of maximising their individual utility with the least possible expenditure. Thus, given the alternative options, either party will select the option that surges his or her individual utility. The principals will, nonetheless find it challenging to know ex- ante which agents will self-aggrandise. Williamson (1985) therefore found it prudent for them to limit potential losses to their utility.

Jensen and Meckling [15] further notes that companies are considered as a network of contracts among various stakeholders such as shareholders or equity holders, bond holders, employees, and the society at large. Consequently, payments of claims of different classes of stakeholders varies. The authors affirm that potential conflicts among the stakeholders, the principal-agent problem is likely to occur if there is lack of alignment of interests of different stakeholders with those of the agents in the firm who control major decisions. They discern that each class of stakeholders pursues its own interest which may be at the expense of other stakeholders.

Classification of agency problems such as disagreements could be between stockholders (principals) and management (agent) (managerial agency); between stockholders (agents) and bondholders (debt agency); between the private sector (agent) and the public sector (social agency); and between the agents of the public sector (regulators) and the rest of the society or taxpayers (political agency) is done based on the conflicts between different parties of the organisation [15], Barnes et al., 1985, and John & Senbet, 1996).

John and Senbet (1998) discern that the consequence of agency problems is to diminish efficient operations of enterprises leading to adoption of ineffective investment strategies that are detrimental to economic growth and development. Thus, the authors argue that economic

environment that enhances the application of good corporate governance (CG) practices as well as the execution of quality contracts among parties with diverse interests, promotes efficient allocation of resources and, ultimately economic development. Furthermore, they discern that crucial to CG mechanisms in market economies is the board of directors that shareholders use to exercise control on top management in combination with external markets for corporate control as well as institutional and concentrated shareholdings.

Similarly, Maher and Andersson [11] avow that the main purpose of the AT is to limit agency costs incurred by the principal attained by harmonising interests of the managers and the shareholders to maximize firm value. In agreement, agency theorists such as Demsetz and Lehn (1985) prescribe several governance mechanisms to protect shareholders interests, minimise agency costs and ensure principal-agents interest alignment that include alternative executive compensation schemes and governance structures, as well as imposition of internal penalties to keep the self-serving agent's behaviour in check. The authors argue that financial incentives reward and punishes management with a purpose of aligning their interest with that of the board. The board of directors on the other hand execute audits and performance evaluations to keep potential self-serving managers in check. Moreover non-executive board members or independent directors of the board serve to ensure effective oversight of the management. They help share a neutral opinion as they are not attached to the existing management.

Although available literature on agency problem is extensive, a number of crucial questions on the board of governance keep on recurring: How successful is the board in execution of its monitoring function?; What is the contribution of the board to shareholder wealth?; Does corporate control mechanisms act as a substitute for the board?; How does board composition influence performance?; and What is the relationship between the board and management?

The Agency theory has however, encountered several criticisms. Donaldson [32] and Aguilera et al. (2008) identified the theory's narrow nature that makes comparison and explanation of governance practices across different institutional and national context difficult. Similarly, Shapiro (2005) critiqued the theory for considering shareholders as the only ones with interests in the listed firms while Doucouliagos (1994) argued that there is failure to explain the complexity of human nature due to the theory's assumption that all motivations are self-serving. The theory nevertheless is justified for the research as it provides direct link between governance indicators and retirement benefit schemes' performance and explains the relation between parties' interest. In the event of disagreements, the author argues that the interests can be brought into alignment through monitoring and well-planned compensation system. The research therefore investigates the impact of CG indicators on financial performance of retirement benefit schemes in Kenya.

2.2.2. Stakeholder Theory

A growing number of scholars and practitioners such as Freeman, Harrison, Wicks, Parmar and De Colle [12]

opine that the "Stakeholder theory" (SHT) as an evolving concept attempts to explain how value is created and traded, the problem of connecting ethics and capitalism, and the problem of helping managers resolve the first two problems. Freeman [33] hypothesised that the theory is an organizational management theory that accounts for multiple players impacted by business entities. It expounds the interconnected relations between a business and its stakeholders and puts attentions to a company's values, ethics, and goals while underscoring social responsibility over profit. The author avows that by managing strong stakeholder relationships, a business can improve its performance and longevity.

Preston and Donaldson [32] as well as Post et al. (2002) discern that the stakeholders comprise individuals and constituencies with different interests and values that contribute to wealth creation of the firm and are its potential beneficiaries and or its risk bearers. Such include shareholders, employees, customers, investors, communities, suppliers, unions, trade associations, political groups, competitors among others who have a stake in the organization. The authors affirm that firms' performance has a correlation with other stakeholders who have interest in the firm, apart from the shareholders. Thus, a wider constituency of interests impacts firm value.

Similar views were echoed by other scholars and practitioners such as Mayer (1996) who asserted that stakeholder interests should be managed to serve public interest. In agreement, the author states that "The 21st Century is one of "Managing for Stakeholders" and affirms that companies' executives need to create value for all stakeholders, not just shareholders. Moreover, the author suggests that successful firms stand because they ensure stakeholder interests are aligned. In concurrence, Aguinis and Glavas (2011) assume that businesses can only be considered successful when they deliver value to the majority of their stakeholders.

The authors further argue that SHT supports the view that a healthy competitive environment benefits everyone which may involve Corporate Social Responsibility (CSR) that impacts sustainability. Thus, they discern that profit cannot be the only measure of business success, and value creation is not just about money. The theory avers that companies play a vital role in the very fabric of a society such as creating jobs and innovating hence their success must be valued as a whole, not just in the returns they make for their shareholders. It's about value maximization, not wealth maximization. They thus avow that the theory serves as a means to improve efficiency and economic success. Besides, the authors are of the view that SHT is superior as it creates more accountability from managers who have more obligations and duties to multiple and diverse groups and therefore less likely to engage in self-dealing.

Preston and Donaldson [32] besides Jones and Wicks [33] assert that the STH has both normative and instrumental implications. They describe normative implications as a moral/ethical obligation to meet genuine claims of all stakeholders. In contrast, they state that instrumental implications means the theory has a profit/wealth creating responsibility to maximize organizational wealth. This implies that stakeholders need

to be involved in corporate decision-making process to enhance efficiency to attain superior firm performance (Kelly & Parkinson, 1998). Similarly, Williamson (1985) argues that the theory is predominantly about how governance practices supports the interests of both the shareholders and other stakeholders. Milton (1990) shareholder theory however, sharply contrasts the SHT. The former advocates the view that a company's sole motivation is to advance its shareholders' interests which is largely concerned with monetary growth. In essence, the theory is about "making more profit at all costs" approach to business.

Critics of the SHT have however grown over time. Health and Norman (2004) observe that poor firm performance may be defended by managements' use of stakeholder reasons. Blair (1995) notes that there is a major challenge in accomplishing firms' wider objectives. Equally, Blattberg (2022), McAbee (2022) and Mansell (2013) observe that it is impossible to reconcile equitably the needs and interests of various stakeholder groups in a company as the stakeholders comprise multiple large and diverse groups. They argue that one or more of these groups will inevitably take a back seat at some point in the process. Other sets of stakeholders will hold more power than others, creating tension and disharmony. The SHT too undermines the principles on which a market economy is based. The authors claim that this arises due to the application of the 'social contract' political concept to the corporation which increases the opportunities of weak stakeholder exploitation by self-interested managers rather than to decrease them.

Other scholars such as Jensen [34], Marcoux (2000), and Sternberg (2000) view SHT as a reason for managerial opportunism. They argue that management actions to benefit multiple and diverse groups makes the theory more difficult to defend than the shareholder theory which engages in self-dealing. Moreover, they note that it is easier to judge performance of managers serving shareholders. Phillips, Freeman and Wicks (2003) are of the opinion that most of the current managerial opportunism was carried out with the goal of shareholder maximization as was the case in the Enron and WorldCom sagas. They particularly critiqued Al Dunlap for mismanaging several firms for his own financial benefits.

2.2.3. Modern Portfolio Theory

The Modern Portfolio Theory (MPT) of Markowitz [35] provides a framework apon which one can make sensible asset management and apportionment decisions. The theory, also referred to as the efficient frontier is an investment theory that proposes two main concepts: *i)* all investors pursue to attain maximum returns for any level of risk; ii) risk reduction can be achieved by combining unrelated financial assets to form a diversified investment portfolio. Sharpe [19] and Lintner (1965) classified risk into systemic, those inherent in the capital market and un-systemic risks, those associated with each particular stock. The later risks are company-specific events that are lowered by diversification.

Lately the theory has, nonetheless been challenged by a number of scholars. Haugen and Heins (1975) as well as Murphy [34] assessed the risk-reward relationship and established that it was far weaker than expected. Besides,

behavioural economists established that not all investors act rationally (Gregory, 2002). Moreover, the MPT makes many incorrect assumptions about investors and markets. They include the use of normal distributions to model returns as well as the neglect of taxes and transaction fees. One of the key assumptions of the MPT is the Efficient Market Hypothesis (EMH) which avows that financial markets are "informationally efficient", Fama [20]. Thus, asset prices reflect all available information implying that one cannot consistently achieve returns in excess of average market returns on a risk-adjusted basis at the time the investment is made. The author identifies three types of the EMH: "weak", "semi-strong", and "strong". The weak form states that prices of traded assets such as stocks, bonds, or property reflect all past publicly available information. The semi-strong form avers that prices reflect all publicly available information and that prices change to reflect new public information. The strong form on the other hand affirms that prices instantly reflect even hidden or "insider" information. Andrei (2000) observes that there is evidence for and against the weak and semi-strong forms. Likewise, there is stronger evidence against the strong form.

Research reveals that stock markets are inefficient. Mookerjee and Yu (1999) as well as Kavussanos and Dockery (2001) are of the view that inefficient markets are likely to impact negatively on their ability to allocate funds to the most productive sectors of the economy and hamper long-term growth. Kian, Robert, Jae (2007 established that the 1997 financial crisis on the efficiency of eight Asian stock markets adversely affected their efficiency, with Hong Kong being the hardest hit, followed by the Philippines, Malaysia, Singapore, Thailand and Korea. Most of these markets nonetheless, recovered in the post-crisis period in terms of improved market efficiency.

The late 2000 Global Financial crisis was believed to have stemmed from the belief in rational markets. Supporters of the EMH such as Chambernan (1983) have nonetheless, stated that the concept of market efficiency does not mean having a risk less future, rather it is a simplification of the world which may not always hold true, and that the market is practically efficient for investment purposes for most individuals. Others opine that the market is asymmetrical with information due to insider trading hence not all investors are equally informed.

Scholars such as Iyiola, Munirat and Nwufo, (2012) aver that the MPT does not really model the market. Measures used by the MPT are based on forecasted values, which are mathematical statements about the future. This however, is not the case as investors need to make predictions based on current data of asset return and volatility for these values in the equations. Historical data fails to take account of new situations which did not exist when the historical data were generated. The authors acknowledge that investors use historical data in the MPT, models risk on the basis of the likelihood of losses, but says nothing about why those losses might occur. The risk measurements used are probabilistic in nature, not structural differing substantially with many engineering approaches to risk management.

Moreover, the authors observe that the theory does not take into account personal, environmental, strategic, or social dimensions of investment decisions. It aims at maximizing risk-adjusted returns, without regard to other risks. Consequently, the authors avow that the complete reliance on asset prices makes it vulnerable to all the standard market failures that arise from information asymmetry, externalities, or public goods. It also rewards malpractices in firms and does not consider new information other than historical returns as suggested by the MPT.

Several scholars have critiqued the MPT. They observe that the theory does not take cognisance of its own effect on asset prices. Although diversification reduces non-systematic risk, it does increase systematic risk, Chandra [36]. The author argues that diversification is done primarily to reduce portfolio's non-systematic risk, forcing portfolio managers to invest in assets without evaluating their fundamentals. This results in increased demand, hence price of assets that, when analysed separately, would be of little fundamental value. This leads to the whole portfolio becoming more expensive and the likelihood of a loss.

Sabbadini (2010) noted that financial analysts often cite Warren Buffett as a rule breaker as they challenge the legitimacy of the theory. They observe that Warren Buffett is not a typical investor as he undertook successful financial takeovers contrasting the average mutual fund managers. The author states that Buffet provides firms with economies of scale, lower cost of capital and the benefits of his managerial wisdom. Besides, he adds that his great returns are a result of his managerial skills than his investment skills, or a blend of both which is not in line with the MPT advocates.

2.2.4. The Arbitrage Pricing Theory

The Arbitrage Pricing Theory (APT), a multi-factor pricing model for securities, developed by Ross [23] proposes that there is a link between expected return of a security and a set of systematic risk factors. According to the author, diversification of portfolios reduces risks but not completely as there are economic forces that still influence stock returns. Chen (1986), Roll and Ross (1980), Cheng (1996), as well as Günsel and Çukur (2007) researched the model and showed that stock return was influenced by several independent variables including GDP, changes in inflation and interest rates.

Nevertheless, various scholars have identified a number of weaknesses of the theory with the main one being its generality. Huberman (2005) avows that the theory fails to explain the theoretical reasons for selecting identified systemic factors as well as their number. Roll (1977) points out that it is difficult to test the theory, as the precise configuration of the market portfolio is not known. Methodologies used in the assessment of the model also pose further challenges. Despite these flaws, the applicability of the APT in establishing asset returns may still be valid. The theory was thus used in the study to investigate the association between pension financial performance, corporate governance, investment strategy and macroeconomic factors. The critical question was: can the theory be applied to non-systemic risk factors as it is applicable for systemic risks?

The APT model

$$R_{it} = \alpha_i + \beta_{i1} F_1 + \beta_{i2} F_2 + ... + \beta_{ik}F_k + e_{it}$$

Where:

R_{it} = the return of the stock i at month t,

α_i = the stock specific effect for stock i,

$F_{j's}$ (j = 1, 2,....k) = macroeconomic factors (or factor scores),

$\beta_i = (\beta_{i1}, \beta_{i2} ... \beta_{ik})$, for each stock i are asset sensitivities, known as 'factor betas,' denoted number of factor betas.

e = the unsystematic return components of the stocks.

2.3. Empirical Review

The section presents empirical literature outlining the relationship between corporate governance, investment strategy, systemic factors and financial performance of pension funds. The studies are relevant as they provide the empirical relationship of the variables and the applicability of the theories.

2.3.1. Corporate Governance and Firm Performance

Existing empirical literature on CG is mainly from US and OECD firms [11]. Research finding showed that the financial performance of firms was influenced by the level of shareholder rights and the competence of existing court systems (Gompers et al., 2001; La Porta, et al., 2001; Lombardo & Pagamo, 1998). In particular, they established that enhanced shareholders' rights resulted in higher financial performance of firms. Besley and Prat [1], Mitchell and Yang (2005), and Manuel and Andreas (2008) found positive relationship between good CG and pension performance. Wagner et al. (1998) found that the probability of firms going under declined with boards controlled by outside directors. Zahra and Pearce (1989) aver that outsiders tend to be objective, unbiased and independent.

Mixed and sometimes inconclusive results on the relations between CG and firm performance were also found by scholars such as Daines and Klausner, 2001 (examined takeover defenses), Larcker, et al. (2007) (examined board and ownership variables) and Coles, et al. (2008) (considered board size). Clarke (2009) observed that CG systems failed to prevent financial crisis and corporate collapses across different economies. Heracleous (2001) reports that researchers failed to find any convincing connection between the best practices in CG and organizational performance.

Studies on impact of CG on firms in Kenya are in the early stages of development and have tended to focus on different sectors. Available empirical evidence is therefore indirect and not related to pension funds. Moreover, different methodologies and variables were used. Jensen (1993) and Guest (2009) examined the effect of board structure and composition on firm performance. The authors established that a smaller board works more effectively in increasing firm performance than larger boards. These studies suggest that an increase in the board size increases agency problems, and thus, board members are less likely to participate in the management process. Finkelstein and Mooney (2003) nonetheless, found that

'independence' and performance of a firm are unconnected to each other.

Bansal and Sharma (2016) examined the role of audit committee characteristics (independence and frequency of meetings) in addition with other components of CG (duality, promoter shareholding, board composition, and board size) in improving firm performance. Fixed effect panel data regression was applied on 235 non-financial public limited companies listed in NSE 500 for the period 2004 to 2013. Return on Assets, Return on Equity, Tobin's q and Market Capitalization were used as proxy of firm performance. Results reveal significant positive association of board size and CEO-Chairman dual role with firm performance. However, findings did not reveal any additional effect of audit committee independence and its meeting frequency on the financial performance of Indian firm.

Locally Ongore and Kobonyo [37] assessed the relationship between financial performance of NSE listed firms and governance. They established significant relationships between ownership concentration and profitability of firms. Miring'u (2011) showed that the performance of board members significantly influenced the financial performance of state firms. Lishenga [38] assessed the effects of board meetings for CG on firm performance and established that improved regularity of board meetings enhanced firm performance.

Kobuthi, K'Obonyo and Ogutu [39] investigated the effect of CG on Performance of Firms Listed on the Nairobi Securities Exchange (NSE). The authors used a CG index as a proxy for CG based on the seven attributes of the revised Capital Markets Authority (CMA) draft code of CG practices for public listed companies in Kenya that included board operations and control, rights of shareholders, stakeholder relations, ethics and social responsibilities, accountability, risk management and internal audit, transparency and disclosure and supervision and enforcement. The study established that there was a statistically significant relationship CG and non-financial performance of firms listed on the NSE. The finding validates the view that organizations can increase their performance by employing good CG practices.

Similarly, Aluoch, Mwangi, Kaijage and Ogutu [18], examined the relationship between board structure and performance of firms listed at the Nairobi Securities Exchange, anchoring the study on agency theory, resource dependency theory, transaction cost theory, political theory and a census approach. Data was extracted from annual reports of 60 listed firms at the NSE between 2002 and 2016. They evaluated the relationship between the variables using longitudinal descriptive research in addition to the panel data regression analysis that used the random effects model.

They established that gender diversity and occupational expertise had significant effect on Return on Assets, while board independence and board age had significant effect on Tobin's Q of listed firms in Kenya. On the contrary, board size had an insignificant effect on both Return on Assets and Tobin's Q. The overall effect of board structure on Returns on Assets and Tobin's Q was significant. The authors concluded that various board structure mechanisms except board size have significant

effect on performance of listed firms in Kenya, and the overall board structure had significant effect on performance of listed firms. The study recommended that management should incorporate board structure mechanisms to enhance performance of firms and regulatory authorities should review the current board structure variables to make them more relevant to improve performance of listed firms in Kenya.

Arising from these findings, one notes that the focus was on firms and not pension funds. None of the studies too assessed the effect of several factors using a multi- equation approach or a composite measure of CG on firm performance. Further studies are thus required to establish the effect of CG and other factors using a multi-equation approach from a developing country's perspective.

A limited number of studies nonetheless, exist on effect of CG on pension funding. Mutegi [30] established that CG structures of occupational retirement benefit schemes in Kenya had a correlation with the financial performance of pension plans. Njuguna [31] found that good CG practices had a positive correlation with pension regulations, leadership and growth of schemes. None of these studies examined the influence of other factors on the above relationship necessitating further research.

2.3.2. Corporate Governance, Investment Strategy and Firm Performance

The effect of governance on investment decisions in institutional investors, private equity funds and pension funds was examined by Khanna and Zyla (2012) in emerging markets (EME). They established that CG was key when making investment decisions and investors were prepared to pay better prices for firms executing good CG practices compared to those poorly governed. The study however, did not investigate the role of trustees in the investment process. In contrast, Useem and Mitchell [27] showed that CG has no relationship with the financial performance of investing firms. The authors however, showed that governance influenced the kind of investment strategy used, which had a positive correlation to the financial performance of investments of pension funds. Thus, the financial performance of the funds' investments is indirectly affected by CG. In Switzerland, Manuel and Christian (2016) investigated the relationship between CG, asset allocation and financial performance of 139 Swiss pension plans undertaking investment opportunities. They established that there is a direct relationship between CG and financial performance of pension plans. The relationship however, is only slight to the category of assets selected.

Ambachtsheer, Capelle and Scheibelhut (1998) evaluated the impact of quality of governance structures on financial performance of pension funds undertaking investment opportunities through a survey of an international group of senior pension fund executives in Australia, New Zealand, Canada, Europe and United States. Their findings showed that the relationship was positive. In Poland, Jackowicz and Kowalewski (2012) showed that there is a positive correlation between the number of non-executive directors on trustee boards, the level of education, and the market values of the funds. Similarly, Eccles et al. (2011) conducted an empirical study of two matched sets of firms covering an 18-year

period. They found that, over the long-term, corporations that voluntarily adopted aggressive investment strategy many years ago significantly outperformed those that had adopted a conservative investment strategy, both in terms of stock market and accounting performance.

Locally, Osano (2013) investigated the effect of investment strategies adopted by investment funds in Kenya on financial performance of the funds. The study was on nineteen investment funds listed by the Capital Market Authority as of 2013 using both primary and secondary data. Descriptive analysis was used to find the type of investment strategy applied, either active or passive investment strategy. The study results established that active investment strategy is one that was found to be integrated into operation investment funds in Kenya. Besides, financial performance is of positive influence to investment funds performance and greatly so is liquidity which means the investment firms utilize liquid assets to make quick investment which translates to good returns.

A review of the studies above indicates that identifying and understanding the persistence of the poor performance of some fund managers is an important issue despite the fact that the average disguises the fact that some fund managers perform well, and others perform poorly. Most of the studies were carried out in developed economies. Furthermore, the level of capital market development varies between the developed and developing countries, Kenya included. This may affect the outcome of the study. Studies carried out too did not take into account the interaction of multiple factors. It is against this backdrop that this study was undertaken to fill the gap. A limited number of local studies so far have investigated the impact of CG and investment strategy on financial performance of retirement benefit schemes.

2.3.3. Corporate Governance, Macroeconomic factors and Pension Performance

Most of the evidence available on studies examining the sources of return variation is indirect and not necessarily linked to pension funds but to securities that pension funds invest in. Research in developed countries and EME by scholars such as Chen (1991); Black, Fraser and MacDonald (1997); Humpe and Macmillian (2007); Mukherjee and Yu (1997) as well as Kwon and Shin (1999) showed that real GNP, industrial production, lagged inflation and interest rate influenced stock performance. Likewise, Muhammad and Rasheed (2002) evaluated the influence of interest rates on stock return for firms in Pakistan, India, Bangladesh and Sri Lanka using monthly data from 1994 to 2000. Their findings indicated a positive link between the two variables for firms in Bangladesh and Sri Lanka only. No relationship was however, found for companies in India and Pakistan.

In another study involving the Bombay Stock Exchange (BSE) Sensex, Singh (2010) assessed the impact of exchange rates, industrial production, and wholesale price Index on stock return from 1994/95 to 2008/09. The results found were mixed. The three factors had a positive link with stock return. However, when the Granger causality test was used to evaluate the findings, Index of industrial production was the only factor having bilateral causal relationship with BSE Sensex. The author concluded that in the Indian Capital Market asset's prices

fully reflect existing information on exchange and inflation rates.

In Kenyan, studies by Olweny and Omondi [25] and Ochieng and Oriwo [26] found a positive link between the Nairobi Securities Exchange All Share Index (NASI), the firm's financial position, foreign exchange rate, interest rate and inflation rate. Wanjiku (2012) as well found that pension performance was heavily influenced by selected macroeconomic variables. She concluded that in the Kenyan Capital Market, asset prices do not fully reflect existing information. There is therefore need to monitor macroeconomic environment since these changes affect security returns.

Equally, Kobuthi, K'Obonyo and Ogutu [39] investigated the effect of CG on Performance of Firms listed on the Nairobi Securities Exchange (NSE). The authors used a CG index as a proxy for CG based on the seven attributes of the revised Capital Markets Authority (CMA) draft code of governance practices for public listed companies in Kenya that included board operations and control, rights of shareholders, stakeholder relations, ethics and social responsibilities, accountability, risk management and internal audit, transparency and disclosure and supervision and enforcement. A survey questionnaire was used for data collection and annual reports for 2015 were used to compute the CGI score for the different organizations. The study established that there was a statistically significant relationship between CG and non-financial performance of firms listed on the NSE. The finding validates the view that organizations can increase their performance by employing good governance practices.

A review of the existing literature nevertheless reveals that none of the studies investigated used a multifactor model to evaluate the impact of CG, macroeconomic variables and investment strategy on financial performance of pension funds which the study investigated.

2.3.4. Empirical Evidence on the Joint Effect of Corporate Governance and Investment Strategy and Macroeconomic Factors on Pension Performance

Empirical studies focusing on the effect of multiple factors on the association between CG and pension fund financial performance are limited both in the developed and developing countries. This is a research area that needs attention. Previous studies on the relationship between CG and pension performance attribute the mixed findings of inconclusiveness or contradictions to the use of two variables at a time (Uwuigbe, 2012). The study will therefore try to address this gap by using a multifactor model to investigate the joint effect of governance, investment strategy and macroeconomic factors on pension performance.

2.4. Research Gaps

Reviewed empirical literature identifies several research gaps. A limited number of local studies examined impact of multiple factors including governance practices, macroeconomic variables and investment strategy on financial performance of pension funds. Moreover, there was lack of unanimity on the effect of CG practices on

pension or firm performance in developed, developing and emerging economies. The findings too were in a number of cases inconclusive. Furthermore, most studies did not take into consideration the influence of moderating and mediating factors on the relationship between governance and pension performance. The use of multi-equation approach to investigate the impact of multiple factors on pension performance was not also exploited.

The research thus examined the combined effect of CG, investment strategy and macroeconomic variables on financial performance of retirement benefit schemes in Kenya. Accordingly, the investigation sought to address the following key research question: What is the relationship between financial performance pension funds in Kenya and the factors CG, investment strategy and macroeconomic variables? Factors determining financial performance of pension funds in Kenya have not been decisively investigated as limited empirical literature is available. The study findings revealed the causal relation amongst study variables and showed its nature from an emerging country's perspective. The study is of great value to the sector given that the pension industry contributes 13% of the country's GDP.

2.5. Value of the study

The study outcomes will provide empirical evidence on both quantitative and descriptive statistics on the association between CG, investment strategy, systemic factors and financial position of pension funds. The findings will link these factors and pension performance in an integrated manner and extend the CG and pension performance discussion. In addition, it will provide evidence from a developing country's perspective on the application of the Agency, Stakeholder, MPT and the Arbitrage Pricing theory on pension schemes. The results will be expected to refine and contribute to a body of finance theory.

Apart from providing knowledge on the relationship between research variables, the study will help practitioners, policy makers, trustees and plan members make sound and effective strategic decisions to achieve superior pension performance. CG and the risk management were at the heart of the debate on the 2007-2008 financial meltdown and the large corporate failures. The study therefore will help identify drivers of effective CG that will help improve financial position of pension schemes. The findings will be relevant not only to the researchers, but also to the regulators and market participants. The regulators, RBA, CMA and the NSE can use them to guide the regulation process when protecting investors in portfolio selection and be a reference for future policies on effectiveness of CG to increase shareholder value. The study findings will also be used to examine critical areas of CG and to formulate necessary policies as guiding frameworks for CG in pension scheme's in Kenya.

Empirical studies on CG in Kenya are limited and therefore it is conceivable that research results will help build academic knowledge in the investment management, systemic factors and pension performance. This will guide academicians, policy makers and research institutions in the development of acceptable CG models relevant in the

context of a developing economy. Hess and Impavido [17] opine that knowledge of the CG theory supports the adoption of good CG practices to reduce agency glitches in pension schemes. The study findings will help unearth factors that are key to the investment process that policy makers must pay attention, broadened knowledge on CG and enable policy makers adopt the hypothesized drivers of effectiveness of CG. This will assist investment managers; plan members and beneficiaries make sound and informed investment decisions in asset allocation, portfolio construction and risk management. Finally, the study will bring to light the importance of the sector to key stakeholders.

2.6. Conceptual Framework

The conceptual model is anchored on the theoretical foundation of the Agency Theory, the Modern Portfolio Theory, the Stakeholder Theory and the Arbitrage Pricing Theory to show the relationship between CG, investment strategy, macroeconomic variables and pension financial performance and how they relate to the research study. The conceptual framework illustrates the expected relationship between the study variables. It defines the relevant objectives for the research process and maps out how they come together to draw coherent conclusions.

Figure 2.1: Conceptual Model
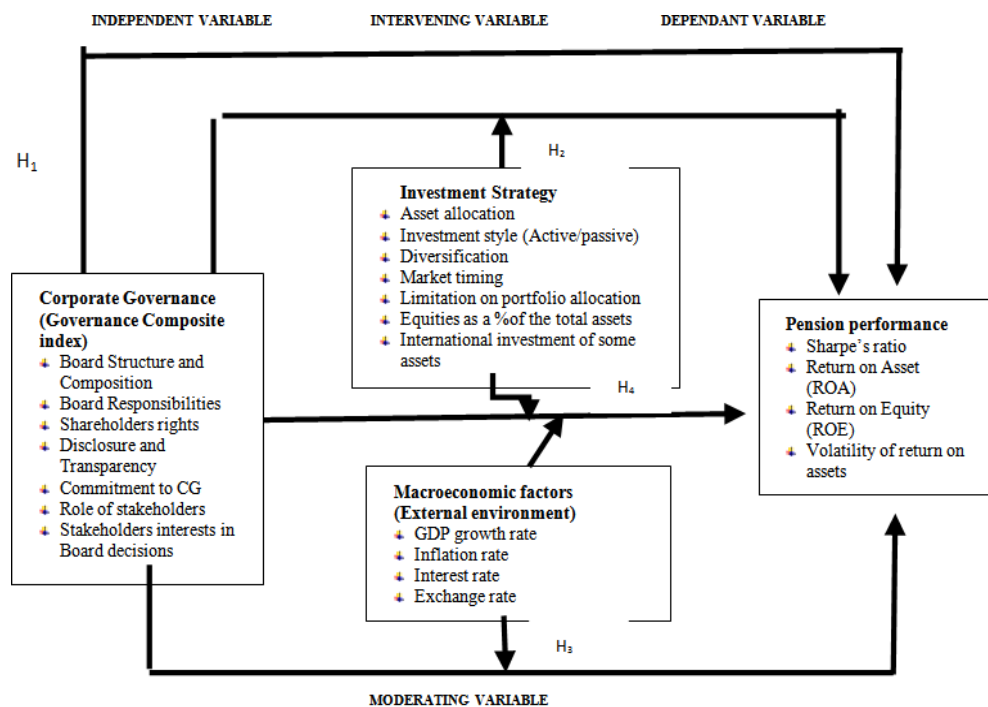
Source: Author's primary analysis, 2023

Figure 2.1. above shows the relationship amongst the study variables

2.7. Hypotheses

The study tested the following hypotheses:
1. H_1: CG has a significant relationship with the financial performance of pension schemes.
2. H_2: Investment strategy has a significant intervening effect on the relationship between governance and financial performance of pension plans.
3. H_3: Macroeconomic variables have significant moderating effect on the relationship between governance and fiscal position of occupational pension plans.
4. H_4: The joint effect of CG, Macroeconomic variables and investment strategy on the pension performance is significant.

3. Research Methodology

3.1. Introduction

The section comprises a review of the research procedure that comprises the research design, population

and sample of the study, data gathering, tests of validity and reliability as well as analysis of data.

3.2. Research Design

Research design is overall strategy one chooses to integrate the different components of the study in a coherent and logical way to address the research problem (Trochim, 2006). Zikmund (2003) referred to it as the main plan for the collection, measurement, and analysis of data to address a research problem. Creswell (2008) identifies three research designs: qualitative, quantitative, or mixed methods.

The quantitative method, which is based in the scientific method, relies on statistical procedures for data analysis and implies using numerical data. The data is numbers and statistics. Its advantage is that one can collect and analyse much more information and make general statements about what is likely to be true overall. In

addition, the results are usually generalizable to larger populations. Its key shortcoming is lack of depth such as reasons why, context, emotions or feelings. Besides, it requires mathematical and/or statistical knowledge to be able to analyse the data effectively. Consequently, quantitative methods rely on experiments and surveys to collect measurable data such that statistical processes can be applied (Creswell, 2003).

In contrast, qualitative methods rely on the descriptive narrative for data analysis (Berrios & Lucca, 2006). The methodologies are used to analyse and evaluate non-numerical information and try to understand intangible evidence, such as emotion and behaviour. Qualitative data includes words, opinions, thoughts, feelings and behaviours. Their main advantage is that one get lots of detail about specific cases, people or group. The disadvantages are that you can't make general statements, and that analysis is time consuming. Others argue that the analysis is also very subjective, but this depends on one's approach.

Qualitative methods are applicable to studies that involve relationships between individuals, individuals and their environments, and motives that drive individual behaviour and action. Berrios and Lucca (2006, p. 174) claimed that qualitative methods provide for a "better understanding of human development." The methods do not impose rigid rules and procedures similar to quantitative methodologies. They allow "richness of the personal experience" by providing in-depth information in the natural language of the experience. This allows data categorization by witnessing the experience in its natural setting, disallowing preconceived hypotheses, and using critical researcher judgment (Berrios & Lucca, 2006, p. 181).

A mixed methods approach has recently emerged which combines quantitative and qualitative methods into a new methodology. The approach collects and uses quantitative and qualitative data in the same study. Many researchers believe this is a new methodology. The combination of the two methods is a recent event.

The study uses both quantitative and qualitative research designs. The qualitative research design of in- depth interview was used to assess both the impact of CG structures and investment strategies on financial performance of pension schemes. They examined about persons and the reason behind the thinking through collection of no-numeric data. The design is more descriptive and is used to draw inferences. It involves five methods: content analysis, in-depth interview, focus groups, ethnographic and case study research. The in- depth interview involved survey questionnaires, interviews and documentation review (Neuman, 2006). Both the CG Index and investment strategy Index were estimated using this method.

Quantitative research designs assess the level of association between study variables using statistical analysis techniques (Creswell, 2013). They are classified as descriptive, correlational, quasi-experimental and experimental research designs, observing and describing the behaviour of a subject without influencing it in any way. Descriptive research describes the characteristics of the population or phenomenon that is being studied focusing more on the "what" of the research subject rather than the "why" aspect. It describes a subject population's

critical variables that will provide answers to the questions of who, what, when, where, and how related with a specific study problem (Cooper & Schindler, 2003). The design involves three methods in data collection: observational, case study methods as well as survey research. This design is used when one wants to define respondent characteristics, measure data trends, conduct comparisons and validate existing conditions.

Correlation studies investigate associations between variables and none of the variables are manipulated (Waters, 2017). Developmental studies evaluate changes over time. The study used descriptive, correlational, survey and developmental quantitative research designs to assess the relationship between financial performance of pension funds and the variables CG structures, investment strategy and macroeconomic factors. The study was also longitudinal as sample members were measured repeatedly over time. The quantitative data collected included performance measurements of pension funds and macroeconomic variables.

3.3. Population of the Study

Population of a study is described as the entire set of subjects (people, objects, events, or measurements) that have similar characteristics that are the interest of a researcher (Mugenda & Mugenda, 2003). The common characteristics of the groups distinguish them from other individual, institutions, objects and so forth. Polit and Hungler (1999) referred to it as the entirety or an aggregate or totality of all the subjects that conform to certain specifications. For the case of this study, the research population comprises 73 public and private pension funds registered with the RBA as at 31st December 2020 organised as either individual (41) or umbrella (32) pension schemes (Appendix III and IV). The unit of analysis was each of the individual or umbrella pension schemes or targeted fund managers from these pension schemes.

3.4. Sample Design

A sample is a subsection of a population carefully chosen to take part in the study (Brink, 1996; Polit & Hungler 1999:227). LoBiondo-Wood and Haber (1998) refers to sampling as the method of selecting part of the population to represent the entire set of subjects. To produce results that can be generalized to the population, random sampling method was applied. Sample size was estimated using Cochran's sample size formula (1963:75):

$$n_0 = Z^2 pq / e^2.$$

Where n_0 is the sample size; Z^2 is the critical value of the Normal distribution at $\alpha/2$, for example Z= 1.96 for a confidence level of 95%, α is 0.05; e is the required accuracy level; p is the sample fraction with a characteristic; and N is the entire set of subjects. The selection of the period of study is informed by the fact that major CG reforms were effected during that time, providing a scope to evaluate the influence of CG as well as investment strategy and macroeconomic factors on pension fund financial performance. Size of the sample for the study was 61 estimated:

$$n = Z^2 * N * \partial_p \; / \left\{ (N-1) * e^2 + \left(Z^2 * \partial^2_p \right) \right\}$$

$$n = \underline{1.96^2 * 73 * 0.5^2} \left\{ (73-1) * 0.05^2 + \left(1.96^2 * 0.5^2 \right) \right\}$$

$$= 67.2768 / 1.1016 = 61.0718954$$

Where; N=73, the population size; e= 0.05, margin of error; $\partial p = 0.5$, the standard deviation of the population; and Z = 1.96 at 95% confidence level. A sample of 61 pension schemes will therefore be studied.

3.5. Data Collection

Data used in the study comprised both primary and secondary sources entailing time series and cross-sectional data covering the years 2012-2020, the time when major pension regulatory reforms were undertaken in sector. Data were derived from several sources. Quantitative data on monthly value of pension assets and their returns was obtained from individual pension funds records, annual reports or archives. Market surveys, annual reports and publications from the Central Bank of Kenya and the Kenya National Bureau of Statistics provided quantitative data on GDP, inflation and foreign exchange rates while the Capital Markets Authority provided NSE 20 share Index, corporate bond and T- bill rates.

Primary data comprising CG and investment strategy indices were obtained after analysis of qualitative data collected using survey questionnaires from the pension schemes. CG Index is used as a proxy measure of the effectiveness of the governance mechanism. A CG Index is build where governance mechanisms constitute inputs and governance standards from the codes of good practices constitute the outputs. The respondents for the questionnaires included elected members of the schemes' trustee sponsor, elected trustee, corporate trustee scheme administrator, scheme manager, custodian actuary and any other person with knowledge on the institution.

3.6. Data Analysis

The unit of analysis was individual pension funds. Data was analysed in two stages. First there was descriptive analysis that entailed computations of frequency distributions, mean scores, standard deviations and coefficient of variation of the pension fund /assets value, and the volatility of gross real return of the pension funds. Secondly, the analysis involved testing for relationships between and among variables to establish their nature and magnitude. This involved multiple regression analyses, Pearson's product moment and analysis of variance (Baron & Kenny, 1986) for this model:

Pension Financial Performance = a + b_1CG+ b_2IS + b_3Macro + e.

Where CG = Corporate Governance; IS = Investment Strategy; Macro = Macroeconomic factors; e= error term. Below are the regression models and the hypotheses tested.

3.6.1. Corporate Governance (CG) and Pension Performance

The first objective was to investigate the impact of CG practices on pension performance of pension schemes registered by the RBA by 31st December 2020. The

independent variable CG was disaggregated as Board structure & composition (BSC), Management practices (MP), Transparency and disclosure (TD) and Shareholders' right (SR). The dependent variable was proxied by the variable combined ROI of pension funds.

H_1: CG has a significant effect on the financial performance of pension plans.

The regression model was:
Pension Financial Performance (combined ROI of pension funds)
= **a +b_1GG + e**
    Combined ROI of pension funds = a + b_1 BSC +b_2 MP+ b_3TD + b_4 SR + e.
Where:
Combined ROI of pension funds = Return on investment
BSC = Board structure & composition
MP = Management practices
TD = Transparency and disclosure
SR = Shareholders' right
e. = error term

3.6.2. Corporate Governance, Investment strategy (IS) and pension performance

The second objective of the research was to establish the relationship between CG practices and IS.

H_2: Investment strategy has a significant intervening effect on the relationship between governance and financial performance of pension plans.

Figure 3.1: Mediation Path diagram
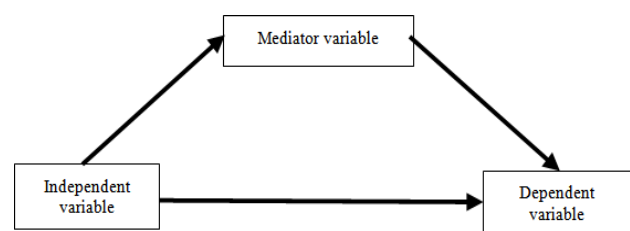
Source: Author's primary analysis, 2023

The study used the Baron and Kenny [40] method, a statistical analysis strategy to test mediation hypothesis as indicated in Figure 3.1. The authors state that mediation analysis quantifies the extent to which a variable participates in the transmittance of change from a cause to its effect. It is inherently a causal notion, hence it cannot be defined in statistical terms. In the intervening variable model of the study, the independent variable CG is postulated to exert an effect on outcome variable Combined ROI of pension funds through the intervening variable IS, the mediator (Hayes A. F. (2009).

Path analysis/Stepwise regression analysis, a statistical method of testing cause/effect relationships of Kenny and Baron [40] was used to investigate the intervening effect of IS on the relationship between corporate governance and pension performance. The following model involving four

steps was used in the intervention analysis.

Step 1: $Y = a_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$
Step 2: $Me = a_0 + \beta_1 X_1 + \varepsilon$
Step 3: $Y = a_0 + \beta_2 Me + \varepsilon$
Step 4: $Y = = a_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_2 Me + \varepsilon$

Where:

$Y =$ composite score for financial performance (combined ROI of pension funds)
$a_0 =$ regression constant
$X_1 =$ composite score for Board structure & composition (BSC)
$X_2 =$ composite score for Management practices (MP)
$X_3 =$ composite score for Transparency and disclosure (TD)
$X_4 =$ composite score for Shareholders' right (SR)
$Me =$ mediating factor-composite score for IS
$R^2 =$ Pearson's product moment correlation

Step 1-3 establishes whether zero order relationship among the variables exists. If one or more of these relations are not significant, then mediation is not possible. But if significant proceed to step 4. Full mediation is supported if CG is no longer significant when IS/IC is controlled. Partial mediation is supported if both CG and IS significantly predict pension performance. R^2 assesses how much change in financial performance is due to CG and IS. If R^2 is > 0.7 there is a positive relationship and below 0.5 there is a weak relationship.

3.6.3. Corporate Governance Practices, Macroeconomic Variables and Pension Fund Financial Performance
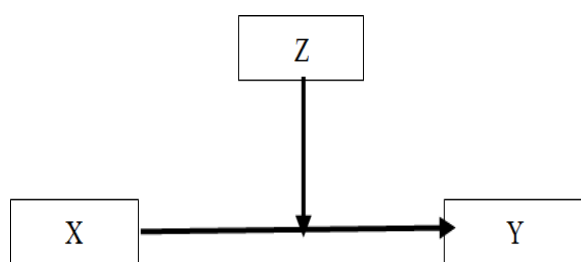
The third objective of the study was to establish the moderating effect of Macroeconomic variables on the relationship between CG practices (BSC, MP, TD and SR) and pension fund financial performance (combined ROI of pension funds) as indicated by Figure 3.2.

H_3: Macroeconomic variables have a significant moderating effect on the relationship between CG practices (BSC, MP, TD and SR) and pension fund financial performance (combined ROI of pension funds). Moderation analysis was done by adding one or multiple interaction terms in a regression analysis.

$$Y = \beta_0 + \beta_1 * X + \beta_2 * Z + \beta_3 * X * Z + \square$$
$$= \beta_0 + \beta_2 * Z + (\beta_1 + \beta_3 * Z)* X + \square.$$

Figure 3.2: Moderation path diagram

Source: Author's primary analysis, 2023

3.6.4.

Corporate Governance Practices, Investment Strategy, Macroeconomic Variables and Pension Fund Financial Performance (The Joint Effect)

The fourth objective of the study was to establish the joint effect of CG practices, Investment strategy, macroeconomic variables and pension fund financial performance of the pension funds registered by the RBA by December 31 2020.

H_4: The joint effect of CG, investment strategy and macroeconomic factors is greater than the sum total of the individual effects of the independent variables on pension performance.

The investigation was done using the following regression equation:

$Y = = a_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_n + \varepsilon$
Combined ROI of pension funds $= = a_0 + \beta_1 BSC + \beta_2 MP + \beta_3 TD + \beta_4 SR + \beta_5 IS + MEV_6 + \varepsilon$

4. Hypotheses Testing and Discussion of the Findings

4.1. Introduction

The study investigated hypotheses that evaluated the relationship among CG indicators, IS Index, macroeconomic variables and the combined ROI of pension funds.

Regression analysis was used to examine the relationship between the variables of interest. In particular, the coefficient of determination (R^2 or r-squared) together with the significance level (P- value) of the estimated coefficient will be used to test the study hypothesis. The coefficient of determination (R^2) is a statistical measure in a regression model that determines the proportion of variance in the dependent variable that can be explained by the independent variable. Diagnostic tests were done to assess the conformity of the research data with assumptions of ordinary least square to enable fit robust regression approximation and mitigate on both type 1 and type 2 errors.

4.2. The Relationship Between Corporate Governance and the Combined Return on Investment (ROI) of Pension Funds

The first hypothesis of the study tests and establishes the effect of corporate governance (CG) indicators on the combined return on investments (combined ROI of pension funds) of RBA registered pension funds in Kenya:

H_A: CG has a significant relationship with the combined ROI of pension funds in Kenya.

The results show that R^2 for the overall model of the influence of CG indicators on combined ROI of pension funds was .362 with an adjusted R^2 of .271 indicating a weak size effect of the model (Table 4.1). This implies that 36.2% of the variation in the combined ROI of pension funds is accounted by the regression, a linear combination of the predictor variables Board structure and composition, Board Responsibilities, Shareholder´s Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders, Stakeholders interests in board decisions (CG indicators).

Table 4.1. Model Summary^b of effect of corporate governance on the combined ROI of pension funds

Model Summary^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.602^a	.362	.271	43.638	.362	3.977	7	49	.002	1.993

a. Predictors: (Constant), Stakeholders interests in board decisions, Board structure and composition, Commitment to Corporate governance, Shareholder´s Rights, Role of stakeholders, Disclosure and transparency, Board Responsibilities

b. Dependent Variable: Combined ROI of pension funds

Source: Author's primary analysis, 2023

Table 4.2. ANOVA^a of the relationship between corporate governance and the Combined ROI of pension funds

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53017.341	7	7573.906	3.977	.002^b
	Residual	93309.450	49	1904.274		
	Total	146326.791	56			

a. Dependent Variable: Combined ROI of pension funds

b. Predictors: (Constant), Stakeholders interests in board decisions, Board structure and composition, Commitment to Corporate governance, Shareholder´s Rights, Role of stakeholders, Disclosure and transparency, Board Responsibilities

Source: Author's primary analysis, 2023

Table 4.3. Coefficient^a of the relationship between corporate governance and the combined ROI of pension funds

Coefficients^a										
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	-35.689	22.902		-1.558	.126					
Board structure and composition	53.518	69.951	.256	.765	.448	.366	.109	.087	.116	8.621
Board Responsibilities	-66.058	54.893	-.326	-1.203	.235	.245	-.169	-.137	.178	5.631
Shareholder´s Rights	-15.084	25.867	-.075	-.583	.562	-.170	-.083	-.067	.792	1.263
Disclosure and transparency	46.419	43.249	.230	1.073	.288	.302	.152	.122	.283	3.538
Commitment to Corporate governance	-9.610	15.185	-.074	-.633	.530	-.133	-.090	-.072	.959	1.043
Role of stakeholders	95.770	32.643	.421	2.934	.005	.539	.387	.335	.632	1.582
Stakeholders interests in board decisions	25.162	20.104	.147	1.252	.217	.200	.176	.143	.945	1.058

a. Dependent Variable: Combined ROI of pension funds

Source: Author's primary analysis, 2023

ANOVA Table 4.2 shows that the F statistic, the test of the entire regression shows at α = .5, the regression is statistically significant because the p value is < 0.05. The model is therefore significant in predicting the combined ROI of pension funds with $F_{(7, 49)} = 3.977$, $p < .05$.

The study results in the coefficient Table 4.3 above however, indicate that only the Role of stakeholders (RS) (t = 2.934, p < .05) show a statistically significant positive effect on combined ROI of pension funds. Board structure and composition (t = .765, p = .448), Disclosure and transparency (t = 1.073, p = .288), and Stakeholders interests in board decisions (t = 1.252, p = .217), had a positive but statistically insignificant effect on the combined ROI of pension funds. In contrast, Board Responsibilities (t = -1.203, p = .235), Shareholder´s Rights (t = -.583, p = .562), and Commitment to CG (t = -.633, p = .530), had a negative but statistically insignificant effect on the combined ROI of pension funds.

The predictor model taking into account the significance levels is as specified below:

Combined ROI of pension funds = -35.689 + 53.518BSC - 66.058BR - 15.084SR + 46.419DT - 9.610CCG + 95.770RS + 25.162SIBD

4.3. The Intervening Effect of is Index on the Relationship Between Corporate Governance Indicators and Combined ROI of Pension Funds

The second objective was to establish the intervening effect of investment strategy (IS Index) on the relationship between CG and financial performance of pension plans (combined ROI of pension funds).

H₂: Investment strategy has a significant intervening effect on the relationship between governance and financial performance of pension plans.

A composite value was not computed for the CG but each indicator was adopted (Board structure and composition, Board Responsibilities, Shareholder´s Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions). Seven sets of regression models were utilized to separately establish the intervening effect of IS Index on the relationship between governance and financial performance of pension plans. Baron and Kenny's [40] as well as Hsu, Wang and Hsu's

(2012) three steps were followed to examine the intervening effect. The below path analysis/Stepwise regression analysis was utilized.

4.4. Path Analysis/Stepwise Regression Analysis

This is a statistical method of testing cause/effect relationships and entail four steps.

Step 1: $Y = a_0 + \beta_1 X_1 + \varepsilon$
Step 2: $Me = a_0 + \beta_1 X_1 + \varepsilon$
Step 3: $Y = a_0 + \beta_2 Me + \varepsilon$
Step 4: $Y = a_0 + \beta_2 Me + \beta_1 X_1 + \varepsilon$
Where
Y= composite score for financial performance
a_0=regression constant
X= composite score for corporate governance indicator
Me=mediating factor-composite score for IS
Pearson's product moment correlation R

4.4.1. Step One of Testing the Effect of CG Indicators Variables on the Combined ROI of Pension Funds.

Step 1: $Y = a_0 + \beta_1 X_1 + \varepsilon$

Step one of the mediating effects of investment strategy (IS Index) on the relationship between CG and combined ROI of pension funds excluded the mediator, IS Index from the regression model. The results on Table 4.1 shows that R^2 for the overall model was .362 with an adjusted R^2 of .271 indicating a weak size effect of the model (Value of < 0.3 is weak, Value between 0.3 and 0.5 is moderate and Value > 0.7 means strong effect on the dependent variable, Srinivasan, 2020). Thus 36.2% of the variation in the combined ROI of pension funds is accounted by the regression, a linear combination of the predictor variables Board structure and composition, Board Responsibilities, Shareholder´s Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions (CG indicators). The F statistic, the test of the entire regression shows that at $\alpha = .01$ this regression is statistically significant because the p value is < 0.05. The model is therefore significant in predicting the combined ROI of pension funds with $F_{(7, 49)} = 3.977$, p <.05 (ANOVA Table 4.2.)

The study findings established that only the Role of stakeholders (RS) had a statistically significant positive effect on combined ROI of pension funds whereas Board structure and composition (BS&C), Disclosure and transparency (D&T) and Stakeholders interests in board decisions (SIBD) showed a positive but statistically non-significant effect on combined ROI of pension funds. In contrast, Board Responsibilities (BR), Shareholder´s Rights (SR) and Commitment to Corporate governance (CCG) had a negative and statistically non-significant effect on the combined ROI of pension funds as indicated in Table 4.3. The predictor model taking into account the significance levels is as indicated below:

Combined ROI of pension funds. = -35.689 + 53.518 BSC - 66.058 BR - 15.084SR + 46.419 D&T - 9.610 CCG + 95.770 RS + 25.162 SIBD

The implication of the ANOVA table 4.2 findings which, indicates that relationship between CG indicators and the combined ROI of pension funds is significant with $F_{(7, 49)} = 3.977$, p <.05) is that it enables one to proceed to step 2.

4.4.2. Step Two of Testing the Relationship Between Corporate Governance Indicators and Investment Strategy (IS Index)

Step 2: $Me = a_0 + \beta_1 X_1 + \varepsilon$

Step two investigates the effect of corporate governance indicators on the IS Index which is the mediator. The results are indicated in Tables 4.4 -4.7. The results show that R^2 for the overall model in step two was .911with an adjusted R^2 of .899 indicating a strong size effect of the model. Thus 91.1% of the variation in the mean IS Index Dummy Variable, the intervening factor is accounted by the regression, a linear combination of the predictor variables CG indicators (Tables 4.4). The F statistic, the test of the entire regression shows that at $\alpha = .01$, this regression is statistically significant because the p value is < 0.001. The model is therefore significant in predicting the Mean IS Index Dummy Variable with $F_{(7, 49)} = 71.819$, p < .001 (Table 4.5).

The coefficient Table 4.6 however, reveals that that only the Board structure and composition (BS&C) (t = 5.032, p < .001 and Role of stakeholders (RS) (t = 2.143, p < .05) show a statistically significant positive effect on IS Index of pension funds. Board Responsibilities (BR) (t = 1.802, p = .078), Shareholder´s Rights (SR) (t = .614, p = .542) and Disclosure and transparency (D&T) (t = 1.382, p =.173), had a positive but insignificant effect on IS Index of pension funds. In contrast, Commitment to Corporate governance (CCG) (t = -1.092, p =.280) and Stakeholders interests in board decisions (SIBD) (t = -.410, p =.683) had a negative but non-significant effect on IS Index of pension funds. The predictor model taking into account the significance levels is as specified below:

IS Index = -0.181 + 0.712BS&C + 0.200BR + 0.032SR + 0.121D&T - 0.034CCG+ 0.142RS – 0.017SIBD

Although the ANOVA table 4.5 shows that the relationship between CG indicators and IS Index is significant with $F_{(7, 49)} = 71.819$, p <.001), the non-significant relations between Board Responsibilities (BR), Shareholder´s Rights (SR), Disclosure and transparency (D&T), Commitment to Corporate governance (CCG) and Stakeholders interests in board decisions (SIBD) and IS Index mean that these factors fail the required mediation criteria. They thus do not have mediating influence on the combined ROI of pension funds. Nonetheless, the mediation testing progresses to step 3 based on the significance of Board structure and composition (BS&C) and Role of stakeholders (RS) on IS Index.

4.4.3. Step Three of Testing The Relationship Between Combined ROI of Pension Funds and Investment Strategy (IS Index)

The third step involved expressing combined ROI of pension funds as a function of intervening factor IS Index. The results on Table 4.7 shows that R^2 for the overall model in step three was .184 with an adjusted R^2 of .169 indicating a weak size effect of the model (value of < 0.3 is weak, value between 0.3 and 0.5 is moderate and value > 0.7 means strong effect on the dependent variable,

Srinivasan, 2020). This implies that 18.4% of the variation in the Combined ROI of pension funds variable is accounted by the regression, a linear combination of the predictor variable IS Index variable. The F statistic, the test of the entire regression shows that at $\alpha = .01$ this regression is statistically significant because the p value is < 0.001. The model is therefore significant in predicting the combined ROI of pension funds variable with $F (1, 55) = 12.386$, $p < .001$ as shown by ANOVA Table 4.8.

Table 4.9 shows the results of the regression indicating the coefficients of the model. The study establishes a significant effect of IS Index ($t = 3.526$, $p < .001$) on combined RIO of pension funds.

The predictor model taking into account the significance levels is as specified below:

Combined ROI of pension funds. = -7.084+ 79.179IS Index It is noted that Step 1-3 establishes whether zero order relationship among the variables exists. If one or more of these relations are not significant, then mediation is not possible. Since all the 3 steps were significant, the study proceeded to step 4.

Table 4.4. Model Summary[b] of IS Index and CG indicators

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.955[a]	.911	.899	5.57871	.911	72.006	7	49	<.001	1.441

a. Predictors: (Constant), Stakeholders interests in board decisions, Board structure and composition, Commitment to Corporate governance, Shareholder´s Rights, Role of stakeholders, Disclosure and transparency, Board Responsibilities
b. Dependent Variable: IS Index
Source: Author's primary analysis, 2023

Table 4.5. ANOVA[a] of IS Index and CG indicators

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.921	7	.560	71.819	<.001[b]
	Residual	.382	49	.008		
	Total	4.304	56			

a. Dependent Variable: IS INDEX
b. Predictors: (Constant), Stakeholders interests in board decisions, Board structure and composition, Commitment to Corporate governance, Shareholder´s Rights, Role of stakeholders, Disclosure and transparency, Board Responsibilities
Source: Author's primary analysis, 2023

Table 4.6. Coefficients[a] of IS Index and CG indicators

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-.181	.046		-3.906	<.001					
Board structure and composition	.712	.142	.629	5.032	<.001	.944	.584	.214	.116	8.621
Board Responsibilities	.200	.111	.182	1.802	.078	.884	.249	.077	.178	5.631
Shareholder´s Rights	.032	.052	.029	.614	.542	.082	.087	.026	.792	1.263
Disclosure and transparency	.121	.088	.111	1.382	.173	.810	.194	.059	.283	3.538
Commitment to Corporate governance	-.034	.031	-.047	-1.092	.280	-.007	-.154	-.046	.959	1.043
Role of stakeholders	.142	.066	.115	2.143	.037	.559	.293	.091	.632	1.582
Stakeholders' interests in board decisions	-.017	.041	-.018	-.410	.683	-.014	-.059	-.017	.945	1.058

a. Dependent Variable: IS Index

Table 4.7. Model Summary of Combined ROI of pension funds and IS Index

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.429[a]	.184	.169	46.59898	.184	12.386	1	55	<.001	2.160

a. Predictors: (Constant), IS Index
b. Dependent Variable: Combined ROI of pension funds
Source: Author's primary analysis, 2023

Table 4.8. ANOVAᵃ of Combined ROI of pension funds and IS Index

	Model	Sum of Squares	df	Mean Square	F	Sig.
	ANOVAᵃ					
1	Regression	26896.217	1	26896.217	12.386	<.001ᵇ
	Residual	119430.574	55	2171.465		
	Total	146326.791	56			

a. Dependent Variable: Combined ROI of pension funds

b. Predictors: (Constant), IS Index

Source: Author's primary analysis, 2023

Table 4.9. Coefficientsᵃ of Combined ROI of pension funds and IS Index

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	-7.084	12.842		-.552	.583			
	IS INDEX	79.179	22.455	.429	3.526	<.001	.429	.429	.429

a. Dependent Variable: Combined ROI of pension funds

Source: Author's primary analysis, 2023

Table 4.10. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.637ᵃ	.405	.306	42.582	.405	4.087	8	48	<.001

Predictors: (Constant), IS INDEX, Commitment to Corporate governance, Stakeholders interests in board decisions, Shareholder´s Rights, Role of stakeholders, Disclosure and transparency, Board Responsibilities, Board structure and composition

Source: Author's primary analysis, 2023

Table 4.11. ANOVAᵃ

	Model	Sum of Squares	df	Mean Square	F	Sig.
	ANOVAᵃ					
1	Regression	59291.006	8	7411.376	4.087	<.001ᵇ
	Residual	87035.785	48	1813.246		
	Total	146326.791	56			

a. Dependent Variable: Combined ROI of pension funds

b. Predictors: (Constant), IS INDEX, Commitment to Corporate governance, Stakeholders interests in board decisions, Shareholder´s Rights, Role of stakeholders, Disclosure and transparency, Board Responsibilities, Board structure and composition

Source: Author's primary analysis, 2023

Table 4.12. Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-12.490	25.593		-.488	.628					
	Board structure and composition	-37.750	84.064	-.181	-.449	.655	.366	-.065	-.050	.076	13.075
	Board Responsibilities	-91.704	55.311	-.452	-1.658	.104	.245	-.233	-.185	.167	6.004
	Shareholder´s Rights	-19.205	25.338	-.095	-.758	.452	-.170	-.109	-.084	.786	1.273
	Disclosure and transparency	30.918	43.017	.153	.719	.476	.302	.103	.080	.272	3.676
	Commitment to Corporate governance	-5.311	14.996	-.041	-.354	.725	-.133	-.051	-.039	.936	1.068
	Role of stakeholders	77.630	33.312	.341	2.330	.024	.539	.319	.259	.578	1.730
	Stakeholders interests in board decisions	27.301	19.652	.159	1.389	.171	.200	.197	.155	.942	1.062
	IS INDEX	128.119	68.878	.695	1.860	.069	.429	.259	.207	.089	11.260

a. Dependent Variable: Combined ROI of pension funds

Source: Author's primary analysis, 2023

4.4.4. Step Four of Testing the Relationship between Combined ROI of Pension Funds, Corporate Governance Indicators and Investment Strategy (IS Index)

Step 4: Y= a_0 +β_2Me + β_1X$_1$ + ε

The fourth step involved expressing Combined ROI of pension funds as a function of intervening factor IS Index and CG indicators. The study results show that R^2 for the overall model in step four was .405 with an adjusted R^2 of .306 indicating a moderate size effect of the model (Value of < 0.3 is weak, Value between 0.3 and 0.5 is moderate and Value > 0.7 means strong effect on the dependent variable, Srinivasan, 2020) (Table 4.10). This implies that 30.6% of the variation in the Combined ROI of pension funds variable is accounted by the regression, a linear combination of the predictor variable CG indicators and IS Index variable.

The F statistic, the test of the entire regression shows that at α = .01 this regression is statistically significant because the p value is < 0.001. The model is therefore significant in predicting the combined ROI of pension funds variable with F (8, 48) = 4.087, p < .001 (ANOVA Table 4.11).

Table 4.12 shows the results of the regression indicating the coefficients of the model. The study establishes a significant positive effect of Role of stakeholders (t = 2.330, p < .05) on combined RIO of pension funds. The other factors of CG indicators and IS Index were nonetheless, non-significant in predicting combined ROI of pension funds. The predictor model taking into account the significance levels is as specified below:

$$\text{Combined ROI of pension funds} = -12.490 - 37.750\,BS\&C$$
$$- 91.704BR - 19.205SR + 30.918D\,\&\,T - 5.311CCG$$
$$+ 7\,7.630RS + 27.301SIBD + 128.119IS$$

4.4.5. The Moderating Effect of Macroeconomic Factors on the Relationship between CG Indicators and Combined ROI of Pension Funds

The third objective of the study investigated the moderating effect of macroeconomic factors on the relationship between CG and financial position of pension plans. Moderation occurs when the relationship between two variables depends on a third variable, the moderator. The effect of a moderating variable is characterized statistically as an interaction; that is, a categorical such as sex, race, class or quantitative such as level of reward variable that affects the direction and/or strength of the relation between dependent and independent variables [40]. H_3: Macroeconomic variables have a significant moderating effect on the relationship between corporate governance and financial performance of pension plans.

The standard method of determining whether a moderating effect exists entailed the addition of an (linear) interaction term in a multiple regression model. Thus, a moderator analysis is really just a multiple regression equation with an interaction term, Aguinis, 2004; Jaccard and Turrisi, 2003; Jose, 2013.

4.4.6. The Stepwise Analysis of the Moderating Effect of Macroeconomic Factors on the Relationship Between CG Indicators and the Combined ROI of Pension Funds

Table 4.13 shows that the "**R Square Change**", indicates the increase in variation explained by the addition of the interaction term (the change in R^2). The change in R^2 in models 2-4 are **.073, .075, and .070** respectively which is a proportion. This implies that the change in R^2 is **7.3%, 7.5% and 7%** which is the percentage increase in the variation explained by the addition of the interaction variable NSE 20 Share Index in model 2, NSE 20 Share Index and Inflation rate in model 3 and NSE 20 Share Index, Inflation rate and GDP Growth Rate in model 4. The increase is statistically significant as indicated in the "**Sig. F Change**" column (*p* < .05), in all the 3 models. The study results suggests that the macroeconomic variables NSE 20 Share Index, Inflation rate and GDP Growth rate do moderate the relationship between CG indicators and the combined ROI of pension funds.

Table ANOVA Table 4.14 suggests that the F statistic, the test of the entire regression shows that at α = .01 the regression of the four models are statistically significant because their p values are all < 0.001. The models are therefore significant in predicting the combined ROI of pension funds: Model 1 F (1, 55) = 22.496, p < .001; Model 2 F (2, 54) = 15.418, p < .001; Model 3 F (3, 53) = 13.786, p < .001; Model 4 F (4,52) = 13.458, p < .001.

Table 4.13. Model Summary[e]

Model Summary[e]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.539[a]	.290	.277	43.45326	.290	22.496	1	55	<.001	
2	.603[b]	.363	.340	41.53071	.073	6.210	1	54	.016	
3	.662[c]	.438	.407	39.37951	.075	7.061	1	53	.010	
4	.713[d]	.509	.471	37.18350	.070	7.445	1	52	.009	1.964

a. Predictors: (Constant), Role of stakeholders
b. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index
c. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index, Inflation (%)
d. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index, Inflation (%), GDP Growth Rate (%)
e. Dependent Variable: the combined ROI of pension funds
Source: Author's primary analysis, 2023

Table 4.14. ANOVAª

	Model	Sum of Squares	df	Mean Square	F	Sig.
				ANOVAª		
1	Regression	42476.570	1	42476.570	22.496	<.001ᵇ
	Residual	103850.221	55	1888.186		
	Total	146326.791	56			
2	Regression	53187.612	2	26593.806	15.418	<.001ᶜ
	Residual	93139.180	54	1724.800		
	Total	146326.791	56			
3	Regression	64137.277	3	21379.092	13.786	<.001ᵈ
	Residual	82189.514	53	1550.746		
	Total	146326.791	56			
4	Regression	74430.932	4	18607.733	13.458	<.001ᵉ
	Residual	71895.860	52	1382.613		
	Total	146326.791	56			

a. Dependent Variable: the combined ROI of pension funds
b. Predictors: (Constant), Role of stakeholders
c. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index
d. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index, Inflation (%)
e. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index, Inflation (%), GDP Growth Rate (%)
Source: Author's primary analysis, 2023

Table 4.15. Model 5 Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
				Model Summaryᵇ	Change Statistics					
1	.885ª	.784	.705	27.77042	.784	9.916	15	41	<.001	1.457

a. Predictors: (Constant), Unemployment rate, Shareholder´s Rights, Board structure and composition, Commitment to Corporate governance, Stakeholders interests in board decisions, GDP Growth Rate (%), Role of stakeholders, Balance of Payments, Inflation (%), Exchange rate (KS/US$), Disclosure and transparency, Commercial Banks weighted average lending interest rates (%), Board Responsibilities, CBK 91-Day T Bill, NSE 20 Share Index
b. Dependent Variable: the combined ROI of pension funds
Source: Author's primary analysis, 2023

4.4.7. Regression Analysis of the Moderating Effect of Macroeconomic Variables on the Relationship between CG Indicators and the Combined ROI of Pension Funds

Table 4.16. ANOVA

	Model	Sum of Squares	Df	Mean Square	F	Sig.
				ANOVAª		
1	Regression	114707.750	15	7647.183	9.916	<.001ᵇ
	Residual	31619.041	41	771.196		
	Total	146326.791	56			

a. Dependent Variable: the combined ROI of pension funds
b. Predictors: (Constant), Unemployment rate, Shareholder´s Rights, Board structure and composition, Commitment to Corporate governance, Stakeholders interests in board decisions, GDP Growth Rate (%), Role of stakeholders, Balance of Payments, Inflation (%), Exchange rate (KS/US$), Disclosure and transparency, Commercial Banks weighted average lending interest rates (%), Board Responsibilities, CBK 91-Day T Bill, NSE 20 Share Index
Source: Author's primary analysis, 2023

The results on Table 4.15 shows that R^2 for the overall model was .784 with an adjusted R^2 of .705 indicating a strong size effect of the model. Thus 78.4% of the variation in the combined ROI of pension funds is accounted by the regression, a linear combination of the predictor variables corporate governance indicators and macroeconomic variables. Study results establish that unlike stepwise analysis, inclusion of all the CG indicators and all macroeconomic variables, results in a further increase in variation in the combined ROI of pension funds accounted by the regression (51.0% in model 4 in stepwise regression(Table 4.13) to 78.4% in model 5 (Table 4.15).

The F statistic, the test of the entire regression shows that at α = .01 this regression was statistically significant because the p value is < 0.001. The model is therefore significant in predicting the combined ROI of pension funds with $F_{(15, 41)}$ = 9.916, p <.001 shown by the ANOVA Table 4.16.

The Coefficients Table 4.17 below shows that only the Role of stakeholders (RS) (t =2.277, p < .05) had a statistically significant positive effect on the combined ROI of pension funds among the CG indicators whereas the macroeconomic variables inflation rate (t = -6.790, p < .001), exchange rate (t = -6.079, p < .001), balance of payments (t = -5.956, p < .001) and NSE 20 share index (t = -5.713, p < .001) had a negative but statistically significant effect on the combined ROI of pension funds. In contrast, commercial Banks weighted average lending interest rates (t = 5.802, p < .001) and CBK 91-Day T Bill (t = 4.943, p < .001) had a positive but statistically significant effect on the combined ROI of pension funds. The predictor model taking into account the significance levels is as indicated below:

Model 5. Moderating effect of macroeconomic factors

$$Combined\ ROI\ of\ pension\ funds = 3765.447 + 65.836BS\&R - 59.126BR - 16.420SR + 5.267D\&T + 2.280CCG$$
$$+ 50.620RS + 11.292SIBD + 39.113\ GDP - 298.125IR - 142.011ER\ (KS/US\$) + 248.618CBWALI$$
$$+ 1477.433CBK91\text{-}DT\ Bill - 8066.328BP - 2.087NSE\ 20\ Share\ Index - 73.318UR.$$

Table 4.17. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3765.447	1340.057		2.810	.008		
	Board structure and composition	65.836	45.846	.315	1.436	.159	.109	9.144
	Board Responsibilities	-59.126	36.245	-.292	-1.631	.110	.165	6.062
	Shareholder´s Rights	-16.420	16.824	-.081	-.976	.335	.758	1.319
	Disclosure and transparency	5.267	29.363	.026	.179	.859	.248	4.027
	Commitment to Corporate governance	2.280	10.412	.017	.219	.828	.826	1.211
	Role of stakeholders	50.620	22.231	.222	2.277	.028	.552	1.812
	Stakeholders interests in board decisions	11.292	13.372	.066	.844	.403	.865	1.156
	GDP Growth Rate (%)	39.113	20.035	.508	1.952	.058	.078	12.840
	Inflation (%)	-298.125	43.908	-3.253	-6.790	<.001	.023	43.558
	Exchange rate (KS/US$)	-142.011	23.363	-8.710	-6.079	<.001	.003	389.578
	Commercial Banks weighted average lending interest rates	248.618	42.849	4.680	5.802	<.001	.008	123.432
	CBK 91-Day T Bill	1477.433	298.888	8.259	4.943	<.001	.002	529.691
	Balance of Payments,	-8066.328	1354.306	-4.534	-5.956	<.001	.009	109.930
	NSE 20 Share Index	-2.087	.365	-16.670	-5.713	<.001	.001	1615.517
	Unemployment rate	-73.318	78.120	-.604	-.939	.353	.013	78.659

a. Dependent Variable: the combined ROI of pension funds
Source: Author's primary analysis, 2023

Table 4.18. Model Summary of the Joint effect of CG indicators, IS Index and macroeconomic variables on the combined ROI of pension funds

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.907[a]	.822	.751	25.49247	.822	11.573	16	40	<.001	1.438

a. Predictors: (Constant), Unemployment rate, Shareholder´s Rights, Board structure and composition, Commitment to Corporate governance, Stakeholders interests in board decisions, GDP Growth Rate (%), Role of stakeholders, Balance of Payments, Inflation (%), Exchange rate (KS/US$), Disclosure and transparency, Commercial Banks weighted average lending interest rates (%), Board Responsibilities, IS Index, CBK 91-Day T Bill, NSE 20 Share Index
b. Dependent Variable: Combined ROI of pension funds
Source: Author's primary analysis, 2023

Table 4.19. ANOVAa of the Joint effect of CG indicators, IS Index and macroeconomic variables on the combined ROI of pension funds

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	120332.160	16	7520.760	11.573	<.001[b]
	Residual	25994.631	40	649.866		
	Total	146326.791	56			

a. Dependent Variable: Combined ROI of pension funds
b. Predictors: (Constant), Unemployment rate, Shareholder´s Rights, Board structure and composition, Commitment to Corporate governance, Stakeholders interests in board decisions, GDP Growth Rate (%), Role of stakeholders, Balance of Payments, Inflation (%), Exchange rate (KS/US$), Disclosure and transparency, Commercial Banks weighted average lending interest rates (%), Board Responsibilities, IS Index, CBK 91-Day T Bill, NSE 20 Share Index
Source: Author's primary analysis, 2023

4.4.8. The Joint effect of Corporate Governance indicators, Macroeconomic variables and Investment Strategy (IS) Index on the Combined ROI of Pension Funds

The fourth objective of the research is to examine the combined effect of CG indicators, macroeconomic factors and investment strategy on the combined ROI of pension funds registered by the RBA. The following alternative Hypothesis was investigated.

H_4: The joint effect of CG, macroeconomic variables as well as investment strategy is statistically significant on financial performance of pension schemes registered by the RBA.

The regression results for the joint effect of CG, macroeconomic variables, investment strategy and the combined ROI of pension funds registered by the RBA are tabulated on tables 4.18-4.20. The joint effect involves expressing the combined ROI of pension funds of pension schemes as a function of IS Index and of CG indicators and macroeconomic variables.

Table 4.20. Coefficients of the Joint effect of CG indicators, IS Index and Macroeconomic Variables on the combined ROI of pension funds

	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3516.697	1233.038		2.852	.007					
	Board structure and composition	-20.829	51.371	-.100	-.405	.687	.366	-.064	-.027	.073	13.624
	Board Responsibilities	-86.814	34.577	-.428	-2.511	.016	.245	-.369	-.167	.153	6.547
	Shareholder´s Rights	-22.141	15.566	-.110	-1.422	.163	-.170	-.219	-.095	.746	1.340
	Disclosure and transparency	-8.190	27.340	-.041	-.300	.766	.302	-.047	-.020	.241	4.143
	Commitment to Corporate governance	8.100	9.760	.062	.830	.412	-.133	.130	.055	.792	1.262
	Role of stakeholders	33.588	21.213	.148	1.583	.121	.539	.243	.106	.511	1.957
	Stakeholders' interests in board decisions	12.120	12.278	.071	.987	.330	.200	.154	.066	.865	1.156
	IS Index	127.791	43.438	.693	2.942	.005	.429	.422	.196	.080	12.495
	GDP Growth Rate (%)	37.243	18.402	.484	2.024	.050	-.038	.305	.135	.078	12.855
	Inflation (%)	-287.343	40.473	-3.136	-7.100	<.001	-.227	-.747	-.473	.023	43.918
	Exchange rate (KS/US$)	-135.784	21.551	-8.328	-6.301	<.001	-.272	-.706	-.420	.003	393.373
	Commercial Banks weighted average lending interest rates	239.778	39.449	4.513	6.078	<.001	.155	.693	.405	.008	124.152
	CBK 91-Day T Bill	1428.483	274.875	7.985	5.197	<.001	.258	.635	.346	.002	531.639
	Balance of Payments,	-7594.110	1253.534	-4.268	-6.058	<.001	.110	-.692	-.404	.009	111.763
	NSE 20 Share Index	-2.001	.337	-15.988	-5.947	<.001	.297	-.685	-.396	.001	1627.602
	Unemployment rate	-58.870	71.880	-.485	-.819	.418	-.159	-.128	-.055	.013	79.028

a. Dependent Variable: Combined ROI of pension funds
Source: Author's primary analysis, 2023

The results show that R^2 for the overall model was .822 with an adjusted R^2 of .751 indicating a strong size effect of the model (Table 4.18). This implies that 82.2% of the variation in the combined ROI of pension funds variable is accounted by the regression, a linear combination of the predictor variables CG indicators, IS Index and macroeconomic factors.

The study results reveal on ANOVA Table 4.19 that the F statistic, the test of the entire regression shows that at α = .01 this regression is statistically significant because the p value is < 0.001. The model is therefore significant in predicting the combined ROI of pension funds of RBA registered pension funds with F (16, 40) = 11.573, p < .001 suggesting that the final model had great explanatory power.

The Coefficients Table 4.20 suggests that only the Board Responsibilities (t = -2.511, p < .05), Exchange rate (KS/US$) (t = -6.301, p <.001), Balance of Payments (t = -6.058, p <.001), NSE 20 Share Index (t = -5.947, p <.001) showed a negative but statistically significant effect on combined ROI of pension funds. The other factors, IS Index (t = 2.942, p < .05) GDP, Growth Rate (t = 2.024, p <.050), Inflation (t = 7.100, p <.001), Commercial Banks weighted average lending interest rates (t = 6.078, p <.001) and CBK 91-Day T Bill (t = 5.197, p <.001) show a statistically significant positive effect on combined ROI of pension funds. Board structure and composition (t = -.405, p = .687), Disclosure and transparency (t = -1.422, p

= .163, Shareholder´s Rights-(t = -.300, p = .766) showed a negative but statistically insignificant effect on Combined ROI of pension funds. whereas commitment to corporate governance (t = .830, p =.412), Role of stakeholders (t = 1.583, p = .121), Stakeholders interests in board decisions (t = .987, p = .330) showed a positive but insignificant effect. The predictor model taking into account the significance levels is as specified below:

The joint effect Model combined ROI = 3516.697- 20.829BSC - 86.814BR - 22.141SR - 8.190&T + 8.100CCG+ 33.588RS + 12.120SIBD + 127.791IS Index + 37.243GDP - 287.343 Inflation - 135.784 EC + 239.778CBWALIR + 1428.483CBK - 7594.110BP - 2.001 NSE –58.87UR.

Source: Author's primary analysis, 2023

4.5. Discussion of the Findings

The main objective of the research was to investigate the relationship between the variables corporate governance, investment strategy, macroeconomic variables and Combined ROI of pension funds registered by the RBA by 31st December 2020. The study findings for the hypotheses tested are discussed in this section.

4.5.1. The relationship between Corporate Governance and Combined Return of Pension Funds

The first objective of the study was to examine the

effect of corporate governance on combined return of pension funds registered by the RBA. The study hypothesis stated that the relationship between corporate governance indicators and combined return of pension funds registered by the RBA was statistically significant. The results however, revealed mixed findings for the individual contribution of corporate governance indicators. The roles of stakeholders indicated a positive and statistically significant effect on the Combined ROI of pension funds with t = 2.934, p < .05. This suggests that implementation of the role of stakeholder's (RS) measures resulted in increase in the combined ROI of pension funds registered by the RBA.

This finding implies that the role of stakeholders has a positive and significant effect on performance-enhancing mechanisms. The results are in concurrence with Frémond (2000) Stakeholder model which states that the purpose of the corporation is to serve a wider range of interests that include but not limited to employees, shareholders, management, creditors, trade unions, suppliers, the local community, future generations. Similarly, the shareholder model opines that the purpose of the corporation is to promote shareholder value.

The findings are also in agreement with the G20/OECD Principles of Corporate governance (2015) which affirm that corporate governance ensures that interests of many constituents are taken into account. This helps to assure that corporations operate for the benefit of society as a whole. Various scholars argue that stakeholders can play an active role in strengthening corporate governance systems. Based on agency theory, the importance of corporate governance (CG) is to reduce agency conflicts between those who control and those who own the residual claims in a firm. In other words, corporate governance as a mechanism that helps to align management's goals with those of the stakeholders that are to increase firm performance. The importance of stakeholder relations in building sustainable enterprises has been recognized by the OECD principals of corporate governance which states that "the *competitiveness and ultimate success of corporations is the result of team work that embodies contributions from a range of different resource providers. It is therefore in the interest of corporations to foster wealth creating corporations among stakeholders." (OECD, 2006).*

esides the study also found that the research findings are in agreement with the results on Board structure and composition (t = .765, p = .448), Disclosure and transparency (t = 1.073, p = .288) and Stakeholders' interests in board decisions (t = 1.252, p = .217) which were positive but nonetheless insignificant on the effect on the combined ROI of pension funds registered by the RBA. It is envisaged that the Board of Directors holds the ultimate and overall responsibility for an entity's corporate governance arrangements. The Board therefore has the first level responsibility for executing the essential pillars of corporate governance: accountability; oversight and monitoring; risk management; transparency; legal and regulatory compliance; strategy formulation; and policy development.

The Board's structure and composition on the other hand should ensure that it can fulfil its fundamental responsibilities and ensure adequate oversight of the entity's operations, taking into account the nature, size and complexity of its business. In addition, it should be composed of persons who, as a group, have the required diversity of knowledge, judgment, and experience to complete their tasks in an appropriate and professional manner. This suggests that effective implementation of Board structure and composition standards should have a positive correlation with pension funds financial performance. The board for instance is responsible for monitoring managerial performance and achieving an adequate return for shareholders, while preventing conflicts of interests and balancing competing demands on the corporation. In addition, it has the authority to replace the management of the corporation.

Mehran (1995) finds empirical evidence to support the view of the substitutive effects between direct monitoring by owners and compensation incentives; board monitoring or monitoring by institutional investors may also substitute for direct shareholder monitoring. In theory, the use of these other mechanisms should reduce the level of pay-incentives needed to align managers' incentives with those of shareholders. In practice, however, board members become like management and agency costs are expected. The author finds that the presence of outside directors, rather than decreasing the level of executive remuneration, actually increases the percentage of equity- based compensation. Conyon and Leech (1993) found no evidence that separating the roles of chairman and CEO had any effect on executing compensation levels. Separating the roles of chairman and CEO is considered a way of preventing boards from becoming entrenched like management and, in principle, should increase accountability.

Cosh and Hughes (1997) do not find any evidence that institutional holdings in the UK alter the level of executive remuneration or the pay-performance relationship. It is hypothesized that monitoring by institutional investors has a substitutive effect with compensation incentives. While direct shareholder monitoring is a good substitute for compensation incentives, the evidence suggests that the board and monitoring by institutional investors, on the other hand, are relatively weak monitoring devices and not a good substitute for direct monitoring.

Disclosure and Transparency (D&T) are essential elements of a robust corporate governance framework as they provide the base for informed decision making by shareholders, stakeholders and potential investors in relation to capital allocation, corporate transactions and financial performance monitoring. The G20/OECD Principles of Corporate governance (2015) affirms that Disclosure and transparency principle should ensure timely and accurate release is made on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company.

According to the OECD, strong disclosure regime that promotes real transparency is a pivotal feature of market-based monitoring of companies and is central to shareholders' ability to exercise their shareholder rights on an informed basis. Experience shows that disclosure can also be a powerful tool for influencing the behaviour of companies and for protecting investors. A strong disclosure regime can help to attract capital and maintain confidence in the capital markets. By contrast, weak

disclosure and non-transparent practices can contribute to unethical behaviour and to a loss of market integrity at great cost, not just to the company and its shareholders but also to the economy as a whole [41]. This suggests that effective implementation of Disclosure and Transparency measures should have a positive correlation with pension funds financial performance. The study results are in congruence with the G20/OECD Principles of Corporate governance (2015) on D&T.

In contrast, the study results on Board Responsibilities (BR) (t = -1.203, p = .235), Shareholder´s Rights (SR) (t = -.583, p = .562) and Commitment to Corporate governance (CCG) (t = -.633, p =.530) had a negative but insignificant effect on the combined ROI of RBA registered pension funds. This implies that non adherence to BR, SR and CCG measures resulted in decline of the combined ROI of pension funds. This could have been a result of none implementation of the stated CG framework by pension funds. The results are in-line with the G20/OECD Principles of Corporate governance (2015) or the Agency or the Stakeholder theories.

The study outcomes tend to partially agree with a number of research findings. Studies by Melis, 2000; D'Onza, Greco and Ferramosca, 2014; Allegrini and Greco, 2011; Zona, 2014 on Italian companies for instance resulted in conflicting results regarding the impact on firm performance of a range of board characteristics, including the board structure, the role of independent directors, the CEO leadership and ownership concentration. Di Pietra, Grambovas, Raonic and Riccaboni (2008) found no relationship between the board size and performance whereas Romano and Guerrini (2014) found a positive relationship, especially in the water utility sector. Research into CEO duality (whether the CEO simultaneously serves as board chairman) also appears to generate ambiguous results in the Italian context. In particular, CEO duality has negative effects (Allegrini and Greco, 2011) or positive effects (Zona, 2014) or no significant effects on performance (Fratini and Tettamanzi, 2015). Consequently, it is still unclear if and how the assumptions of agency theory are verified in the Italian context.

Similarly, Ongore and K'Obonyo (2011) investigated locally the interrelations among ownership, board and manager characteristics and firm performance in a sample of 54 firms listed at the Nairobi Stock Exchange (NSE). The study results collaborates the results of the above scholars. The governance characteristics, designed to minimize agency problems between principals and agents in this study were operationalized in terms of ownership concentration, ownership identity, board effectiveness and managerial discretion. The ownership identities at the NSE were government, foreign, institutional, manager and diverse ownership forms. Firm performance was measured using Return on Assets (ROA), Return on Equity (ROE) and Dividend Yield (DY). Using PPMC, Logistic Regression and Stepwise Regression, the study established significant positive relationship between foreign, insider, institutional and diverse ownership forms and firm performance. However, the relationship between ownership concentration and government and firm performance was significantly negative. The role of boards was found to be of very little value, mainly due to lack of adherence to board member selection criteria. The results also show significant positive relationship between managerial discretion and performance.

The study results are in addition in line with the OECD [41] corporate governance framework. The later was designed to ensure strategic guidance of the company, effective monitoring of management by the board, and accountability to the company and the shareholders by the board. The board is therefore chiefly responsible for monitoring managerial performance and achieving an adequate return for shareholders, while preventing conflicts of interest and balancing competing demands on the corporation. In addition, it is responsible for overseeing the risk management system and systems designed to ensure that the corporation obeys applicable laws, including tax, competition, labour, environmental, equal opportunity, health and safety laws as well as being accountable to the company and its shareholders but also having a duty to act in their best interests. Furthermore, boards are expected to take due regard of, and deal fairly with, other stakeholder interests including those of employees, creditors, customers, suppliers and local communities [41]. Thus, it is postulated that there should be a positive correlation between pension financial performance and implementation of the CG framework.

For the case of shareholders rights, the OECD [41] is of the view that corporate governance framework should protect and facilitate the exercise of shareholders' rights and ensure the equitable treatment of all shareholders, including minority and foreign shareholders. All shareholders should have the opportunity to obtain effective redress for violation of their rights. Investors' confidence such as pension funds, that the capital they provide will be protected from misuse or misappropriation by corporate managers, board members or controlling shareholders is an important factor in the development and proper functioning of capital markets. Thus, it is expected that application of shareholders rights should result in improved performance of pension funds.

The study findings contrast those by Maury, 2006 who examines how family-controlled firms perform in relation to firms with nonfamily controlling shareholders in Western Europe. The sample consists of 1672 non-financial firms. Active family control is associated with higher profitability compared to nonfamily firms, whereas passive family control does not affect profitability. Active family control continues to outperform nonfamily control in terms of profitability in different legal regimes. Active and passive family control is associated with higher firm valuations, but the premium is mainly due to economies with high shareholder protection. The benefits from family control occur in non-majority held firms.

These results suggest that family control lowers the agency problem between owners and managers [20], but gives rise to conflicts between the family and minority shareholders when shareholder protection is low and control is high [42]. The author is also of the view that while active family control increases profitability compared to nonfamily firms even when different judicial settings are considered within Western Europe, such increased profitability does not translate into higher valuations when shareholder protection is low. These results fit rather well with recent evidence that family

control can increase firm value in a well-regulated economy such as the US (McConaughy et al., 1998, Anderson and Reeb, 2003), whereas family control may harm minority shareholders due to the risk of expropriation when transparency is low such as East Asian firms (Faccio et al., 2001).

Similar findings were also observed by studies by Maher and Andersson [11] who established that the financial performance of firms was influenced by the level of shareholder rights and the competence of existing court systems (Gompers et al., 2001; La Porta, et al., 2001; Lombardo & Pagamo, 1998). In particular, they ascertained that enhanced shareholders' rights resulted in higher financial performance of firms. Besley and Prat (2003), Mitchell and Yang (2005), and Manuel and Andreas [28] found positive relationship between good corporate governance and pension performance. Wagner et al. (1998) found that the probability of firms going under declined with boards controlled by outside directors. Zahra and Pearce (1989) aver that outsiders tend to be objective, unbiased and independent.

Other comparable empirical research results supporting the notion that business organizations can and should serve the interests of multiple stakeholders (Preston & Sapienza, 1990: 361) and that such service is associated with higher financial performance (Sisodia, Wolfe and Sheth, 2007), reputation (Fombrun and Shanley, 1990), and organizational performance (Greenley and Foxall, 1997) were observed. Nevertheless, some studies find conflicting results between social orientation and firm performance (Aupperle, Carroll and Hatfield, 1985; Agle, Mitchell and Sonnenfield, 1999), and social orientation is often taken as emblematic of "stakeholder orientation".

Moreover, mixed and sometimes inconclusive results on the relations between corporate governance and firm performance were also found by scholars such as Daines and Klausner, 2001 (examined takeover defenses), Larcker, et al. (2007) (examined board and ownership variables) and Coles, et al. (2008) (considered board size). Clarke (2009) observed that corporate governance systems failed to prevent financial crisis and corporate collapses across different economies. Heracleous (2001) reports that researchers failed to find any convincing connection between the best practices in corporate governance and organizational performance. A possible explanation for these results is that there could be other factors influencing the above. Renders et al. (2010) attribute it to the differing and limitation of methods of measuring corporate governance and econometric problems.

4.5.2. The relationship Between Investment Strategy and Combined Return of Pension Funds

The second objective of the study was to establish the mediating effect of investment strategy on the relationship between corporate governance and combined ROI of pension funds of RBA registered pension funds. The hypothesis to be tested was that the intervening effect of investment strategy on the relationship between governance and financial performance of pension plans is significant. The IS Index was adopted as the indicator of investment strategy derived from a questionnaire administered to pension funds' management. Path analysis/Stepwise regression analysis was used for

evaluating the mediation effect. The statistical method of testing cause/effect relationships and entail four steps:

Step 1: $Y = a_0 + \beta_1 X_1 + \varepsilon$; Step
2: $Me = a_0 + \beta_1 X_1 + \varepsilon$; Step 3:
$Y = a_0 + \beta_2 Me + \varepsilon$;
Step 4: $Y = a_0 + \beta_2 Me + \beta_1 X_1 + \varepsilon$).

The research establishes in step one that the influence of corporate governance on combined ROI of pension funds is partly explained by corporate governance indicators of Stakeholders interests in board decisions, Board structure and composition, Commitment to Corporate governance, Shareholder´s Rights, Role of stakeholders, Disclosure and transparency and Board Responsibilities. The influence of the Role of stakeholders was positive and significant. The effects of Board structure and composition, Disclosure and transparency and Stakeholders' interests in board decisions were all positive but statistically insignificant on combined ROI of pension funds registered by the RBA. This implies that there was a marginal improvement in combined ROI of pension funds with enhancement of implementation of activities outlined by these corporate governance indicators.

In contrast, the influence Board Responsibilities, Shareholder´s Rights and Commitment to Corporate governance were all negative but statistically insignificant on combined ROI of pension funds registered by the RBA. These findings suggest that there was no adherence to these corporate governance measures leading to negative influence on the combined ROI of pension funds. The result are in line with the G20/OECD Principles of Corporate governance which are meant to support economic efficiency, sustainable growth and financial stability of companies. In particular, they help build an environment of trust, transparency and accountability necessary for fostering long-term investment, financial stability and business integrity, thereby supporting stronger growth and more inclusive societies. Besides, the principles recognise the interests of employees and other stakeholders and their important role in contributing to the long-term success and performance of the company.

The study findings are consistent with the results of Rais (2009) in his study on Stakeholder orientation and financial performance in Indonesia where the author examined the role of stakeholder management on organizational performance. The results revealed that the firm's achieved superior performance through the management of its relationships with its stakeholders. They noted that the policies, practices and outcomes may vary amongst the stakeholders of a given firm forcing firms to make tradeoff amongst its practices towards diverse stakeholders. Ontita and Kinyua (2020) using a select 89 management staff of Commercial Banks in Nairobi City County to form the sample, structured questionnaires for data collection and both descriptive statistics and inferential statistics for data analysis found that stakeholder management positively influences affected performance of Commercial Banks in Kenya.

The findings are partly consistent with the study by Balagobei, S. (2018) who reported mixed results. The board size and audit committee have significant impact on ROA and board size has significant impact on Tobin's Q, whereas board independence, CEO duality and director's ownership

have insignificant impact on both firm performance measures of ROA and Tobin's Q. Furthermore the board size and audit committee have negative relationship with firm performance. This study suggests that small boards are associated with higher firm performance, possibly through closely monitored managements.

Step two of the analysis revealed that variation in the mean IS Index Dummy Variable, the intervening factor is accounted by the regression, a linear combination of the predictor variables Board structure and composition, Board Responsibilities, Shareholder´s Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders, Stakeholders interests in board decisions (corporate governance indicators). Specifically, Board structure and composition and Role of stakeholders had positive and statistically significant influence on IS Index whereas Board Responsibilities, Shareholder´s Rights and Disclosure and transparency had positive but statistically insignificant influence on IS Index.

Comparable results were found on several studies done to examine the impact of CG on investment strategies. Khanna and Zyla (2012) studied the effect of governance on investment decisions in institutional investors, private equity funds and pension funds in emerging markets (EME). They established that corporate governance was an important factor when making investment decisions and investors were prepared to pay better prices for firms executing good corporate governance practices compared to those poorly governed. In contrast, Useem and Mitchell (2008) showed that corporate governance has no relationship with the financial performance of investing firms. The authors however, showed that governance influenced the kind of investment strategy used, which had a positive correlation to the financial performance of investments of pension funds. Thus, the financial performance of the funds' investments is indirectly affected by corporate governance. In Switzerland, Manuel and Christian (2016) investigated the relationship between corporate governance, asset allocation and financial performance of 139 Swiss pension plans undertaking investment opportunities. They established that there is a direct relationship between corporate governance and financial performance of pension plans. The relationship however, is only slight to the category of assets selected.

The step three of the mediation effect established that the combined ROI of pension funds of RBA registered pension funds is influenced by investment strategy. The effect of IS Index is positive and statistically significant implying that enhanced application of various investment strategies had the effect of increasing the combined ROI of pension funds. The studies are consistent with those by Blake, Lehmann and Timmermann (1999) who analyzed a data set on UK pension funds and found that strategic asset allocation accounts for most of the ex-post variation of UK pension funds' returns. Other studies established that the vast majority of funds had negative market- timing estimates (Coggin et al., 1993; Daniel, et al. 1997; Blake et al., 1999). Oppolito (1989) looked at mutual fund data and found evidence that is consistent with optimal trading in efficient markets. Grinblatt and Titman (1989) looked at mutual fund performance and tests indicated that the risk-adjusted gross returns of some funds were significantly positive.

They concluded that risk-adjusted returns in the mutual fund industry, net of fees and expenses, are comparable to returns available in Index funds. The findings show that there are those that support market efficiency as well as those that reject it. The latter are of the view that investors can apply the MPT to attain an optimal risky portfolio that is fully diversified to achieve a higher return than investing in an Index portfolio. Other studies by Christensten (2005), Chen and Liang (2005), Treynor and Mazuy (1966) and Merton and Henricksson (1981) found mixed conclusions on the ability of market timing to deliver superior or above market returns. While Chen and Liang (2005) find evidence of positive relationship between market timing and returns. This means that there is no clear nut shell in the area of study. It is noted that Step 1-3 establishes whether zero order relationship among the variables exists. If one or more of these relations are not significant, then mediation is not possible. The results show that all the relations tested were significant hence the analysis proceeded to step four.

Step four of the mediation process which involved expressing combined ROI of pension funds as a function of intervening factor IS Index and corporate governance indicators revealed that the combined effect of the independent variables had a moderate size effect as indicated by the R^2 of the overall model of .405 with an adjusted R^2 of .306 implying that 40.5% of the variation in the combined ROI of pension funds variable is accounted by the regression, a linear combination of the predictor variable CG indicators and IS Index variable (Table 4.10). The F statistic, the test of the entire regression shows that at $\alpha = .01$ the regression was statistically significant because the p value was < 0.001. The model was therefore significant in predicting the combined ROI of pension funds Variable with $F_{(8,48)} = 4.087$, $p < .001$ shown by ANOVA Table 4.11.

The study establishes a significant positive effect of Role of stakeholders ($t = 2.330$, $p < .05$) on combined RIO of pension funds. In addition, the findings reveal a positive but insignificant effect of Disclosure and Transparency, Stakeholders interest in board decisions, and investment strategy Index. The other factors of Board Structure and Composition, Board Responsibilities, Shareholders Rights and Commitment To Corporate Governance had a negative but insignificant effect in predicting combined ROI of pension funds (Table 4.12).

The mediation tests of the study imply that corporate governance influences combined ROI of pension funds through investment strategy. Thus, governance impacts the type and quality of investment strategies which in turn influences the combined ROI of pension funds. A well planned investment strategy is thus essential before making any investment decisions. Fama & French (1992) observed that investment strategies are ways by which an investor can acquire the expected return, given a specific risk tolerance level. Companies that embrace corporate governance achieve greater accountability in their investment decision-making processes.

Corporate governance sets high integrity thresholds for protecting the interests of shareholders, creditors, suppliers and employees. Company boards that seek to meet these thresholds must be accountable, ethical and sensitive in their investment decisions. As such, corporate governance

enables company boards to prioritize accountability when making investment decisions. Moreover, corporate governance grants company boards sufficient independence from the management teams and other stakeholder in companies empowering them to perform duties without undue interference from the management or dominant shareholders. This way, directors can protect the investment objectives of companies from conflict of interests among competing parties.

The study results are in agreement with Fama 1978 who opined that investment decisions are one of the factors that can increase firm value. Studies by Bajo et al. 1998, Santos et al. 1993, Efni (2017), Soumaya (2015) and Susanti et al. (2019) established that investment decisions can increase firm value. In contrast, study findings by Brio et al. (2003), and Lin and Kulatilaka (2007) showed that investment decisions tend to suppress increases in firm value. Based on these observed patterns, Gunardi et al. (2022) concluded that a firm's value can be increased through investment decisions.

Studies by Christensen (2005), Chen and Liang (2005), Treynor and Mazuy (1966) and Merton and Henricksson (1981) nonetheless, established mixed conclusions on the ability of market timing to deliver superior or above market returns. Chen and Liang (2005) find evidence of positive relationship between market timing and returns. This implies that there is need for further research in the area of study.

4.5.3. The Relationship between Macroeconomic Variables, Corporate Governance and Combined Return of Pension Funds

The third objective was to investigate the moderation effect of macroeconomic factors on the relationship between CG indicators and combined ROI of pension funds. A multiple regression was carried out to investigate moderating effect of macroeconomic variables GDP Growth Rate, Inflation, Unemployment rate, Commercial Banks weighted average lending interest rates in addition to such factors as Exchange rate (KS/US\$), CBK 91-Day T Bill, Balance of Payments and NSE 20 Share Index (moderators) on the relationship between corporate governance and financial performance of pension plans. The results of the stepwise analysis of the regression indicated that the "R Square Change", which indicates the increase in variation explained by the addition of the interaction term (the change in R^2) was realized in the models 2-4 of 0.073, 0.075, and 0.070 respectively (Table 4.13). This implies that the change in R^2 is 7.3%, 7.5% and 7% which is the percentage increase in the variation explained by the addition of the interaction variable NSE 20 Share Index in model 2, NSE 20 Share Index and Inflation rate in model 3 and NSE 20 Share Index, Inflation rate and GDP Growth Rate in model 4. The increase is statistically significant as indicated in the "Sig. F Change" column ($p < .05$), in all the 3 models (Table 4.14).

The study results suggests that the macroeconomic variables, Inflation rate and GDP Growth rate in addition to the factor NSE 20 Share Index, do moderate the relationship between CG indicators and combined ROI of pension funds. The results are collaborated by findings in the ANOVA Table 4.14 which shows that the F statistic,

the test of the entire regression shows that at $\alpha = .01$ the regression of model 5 is statistically significant because their p values are < 0.001. The models are therefore significant in predicting the combined ROI of pension funds: Model 1 F (1, 55) = 22.496, p < .001; Model 2: F (2, 54) = 15.418, p < .001; Model 3: F (3, 53) = 13.786, p < .001; Model 4: F (4,52) = 13.458, p < .001.

The regression analysis of all the macroeconomic factors collaborates the findings of the stepwise regression analysis above. The results on Table 4.15 shows that R^2 for the overall model was .784 with an adjusted R^2 of .705 indicating a strong size effect of the model. Thus 78.4% of the variation in the combined ROI of pension funds. is accounted by the regression, a linear combination of the predictor variables corporate governance indicators Board structure and composition, Board Responsibilities, Shareholder´s Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions and macroeconomic variables GDP Growth Rate, Inflation rate, unemployment rate, Exchange rate (KS/US\$), Commercial Banks weighted average lending interest rates, CBK 91-Day T Bill, Balance of Payments and NSE 20 Share Index. Study results establish that unlike stepwise analysis, inclusion of all the CG indicators and all macroeconomic variables results in an increase in variation in the combined ROI of pension funds accounted by the regression from 47.1% in model 4 in stepwise regression to 78.4% in model 5 for all the macroeconomic variables.

In addition, the F statistic, the test of the entire regression shows that at $\alpha = .01$ this regression was statistically significant because the p value is < 0.001. The model was therefore significant in predicting the combined ROI of pension funds. with F (15,41) = 9.916, p <.001 shown by the ANOVA (Table 4.16. The results thus indicate that there is significant regression relationship between the dependent variable and the predictor variables as is indicated by a large F value and a small significance level. This suggests that the null hypothesis was not true, meaning that the 15 predictor variables are not all equal to each other and could be used to predict the dependent variable, combined ROI of pension funds.

The relative importance of the independent variables in moderation is judged for by the magnitude of the t statistics. Commercial Banks weighted average lending interest rates (t = 5.802, p < .001) and CBK 91-Day T Bill (t = 4.943, p < .001) had a positive but statistically significant effect on the combined ROI of pension funds. In contrast, Inflation rate (t = -6.790, p < .001), Exchange rate (t = -6.079, p < .001), Balance of Payments (t = - 5.956, p < .001) and NSE 20 Share Index (t = -5.713, p < .001) had a negative but statistically significant effect on combined ROI of pension funds. The Role of stakeholders (RS) (t =2.277, p < .05) however, was the only factor among the CG indicators which had a statistically significant positive effect on combined ROI of pension funds (Coefficients Table 4.17).

The results show strong evidence to reject the null hypotheses that the coefficients are equal to each other and that they equal zero (no effect). The study results are in concurrence with the research findings of Chen (1991), Black, Fraser & MacDonald (1997), Muhammad & Rasheed (2002) and Humpe & Macmillian (2007),

Mukherjee & Yu (1997) and Kwon & Shin (1999) in developed countries and EME which indicated that real GNP, industrial production, lagged inflation and interest rate influenced stock performance.

The established results tend to agree with the fact that macroeconomic factors are influential fiscal, natural, or geopolitical events that broadly affect a regional or national economy. Macroeconomic factors thus tend to impact wide swaths of populations, rather than just a few select individuals. The study findings are in concurrence with the Arbitrage Pricing Theory (APT) of Ross (1976) which postulates that there is an association between expected return of a security and a set of systematic risk factors as well as the study results by Chen (1986); Roll & Ross (1980) which established that factors such as GDP, changes in inflation and interest rates affect expected stock return.

The finding on the Role of stakeholders (RS) (t =2.277, p < .05) affirms the Stakeholder Theory of Freeman (1984), a view of capitalism that stresses the interconnected relationships between a business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization. The theory argues that a firm should create value for all stakeholders, not just shareholders.

In general, the study establishes the acceptance of six hypotheses involving macroeconomic variables.

4.5.4. The Joint Effect of Corporate Governance, Investment Strategy and Macroeconomic Variables, and Combined Return of Pension Funds

The fourth objective of the study was to examine the joint effect of corporate governance, investment strategy and macroeconomic variables on combined ROI of pension funds registered by the RBA as at 31st December 2020. The study hypothesis established that the joint effect of corporate governance, investment strategy and macroeconomic variables on combined ROI of pension funds was statistically significant. Table 4.18 shows that R^2 for the overall model was .822 with an adjusted R2 of .751 indicating a strong size effect of the model. Thus 82.2% of the variation in the combined ROI of pension funds is accounted by the regression, a linear combination of the predictor variables CG indicators, IS index and macroeconomic factors. The results however, revealed mixed findings particularly for CG indicators and macroeconomic variables on the individual contribution for each factor (Table 4.20).

The impact of Board Responsibilities on the joint effect on combined ROI of pension funds of pension funds registered by the RBA was negative and statistically significant (t = -2.511, p < .05). This suggests that none implementation of the Board Responsibilities measures lead to statistically significant decline in the combined ROI of pension funds. Moreover, Board structure and composition, Shareholder´s Rights and Disclosure and transparency were negative but statistically insignificant. This suggests that non adoption of the measures of these indicators resulted to the decline though statistically insignificant in the combined ROI of pension fund of pension funds. In contrast, the results were positive but statistically insignificant for Commitment to Corporate

governance, Role of stakeholders and Stakeholders interests in board decisions. Thus, application of these CG indicator measures resulted to increase in the combined ROI of pension funds though it was not statistically significant (Table 4.20).

The findings are in agreement with the G20/OECD Principles of Corporate governance (2020) that aim to promote transparent and fair markets, efficient allocation of resources, be consistent with the rule of law and support effective supervision and enforcement. Under the principles of corporate governance, the board for instance approves corporate strategies that are intended to build sustainable long-term value; selects a chief executive officer (CEO); oversees the CEO and senior management in operating the company's business, including allocating capital for long-term growth and assessing and managing risks; and sets the "tone at the top" for ethical conduct (Business Roundtable, 2016).

For an effective approach for companies, the board structure will be determined by the Board Composition which will depend on the size, composition, diversity, tenure, characteristics, experience, independence, election and time commitments. It is postulated that size should bring the benefit of a broader mix of skills, backgrounds and experience while composition of a board should reflect a diversity of thought, backgrounds, skills, experiences and expertise and a range of tenures that are appropriate to perform its oversight function effectively. Moreover, on characteristics, the director should have integrity, strong character, sound judgment, an objective mind and the ability to represent the interests of all shareholders. The organisation should also have Board Committee Structure that permits the board to address key areas in more depth than may be possible at the full board level such as the audit and compensation committee. This suggests that application of CG principles will lead to improved financial performance of pension firms.

Based on the Agency theory, the importance of corporate governance is to reduce agency conflicts between those who control and those who own the residual claims in a firm. In other words, corporate governance as a mechanism helps to align management's goals with those of the stakeholders that are to increase firm performance. The Board Responsibilities therefore should ensure the strategic guidance of the company, effective monitoring of management by the board, and the board's accountability to the company and the shareholders. In concurrence with the above findings, the IFC (2018) observed that good corporate governance contributes to sustainable economic development by enhancing the performance of companies and increasing their access to outside capital. In addition, it ensures that the companies have proper rules, policies and practices to create long-term shareholder value.

Equally, Alduais et. al. (2022) affirmed that corporate governance is an important and effective technique for enhancing investors' confidence in existing and prospective companies and for creating opportunities for safe investment. This they note entails having the responsibilities of the board being well outlined to ensure the strategic guidance of the company, effective monitoring of management by the board, and the board's accountability to the company and the shareholders;

protect and facilitate the exercise of shareholders' rights and ensure the equitable treatment of all shareholders, including minority and foreign shareholders and recognise the rights of stakeholders established by law or through mutual agreements. In addition, they should encourage active co-operation between firms and stakeholders in creating wealth, jobs, and the sustainability of financially sound enterprises; improve access to capital, create capital markets, reduce investment risk and ensure timely and accurate disclosure on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company. This implies that the significance of good corporate governance goes far beyond the interests of the shareholders in an individual company (G20/OECD, 2020) as envisaged by the Stakeholder Theory.

Various scholars such as Gobalet (1979), Sener and Selcuk (2019), Core et al. (1999) Pettinger (2019) and Chung et al. (2022)observe that one of the most salient relationships in economic life is the positive link between investment and economic growth. As key functions of the financial system, the investment process involves three steps: to mobilise capital; allocate capital among alternative ends; and monitor the use of the invested capital. The result will nonetheless, be highly dependent on the institutional framework of laws, regulations and business practices that shape and affect the interactions between equity investors and the corporation, often summarized as corporate governance. A weak corporate governance framework will severely impede all stages of the investment process and hence the economy's overall prospects to build a strong private sector basis for economic growth. Researchers such as Almasria (2018); Almasria (2022b); Suman and Singh (2020); Chen et al. (2017); Habib and Jiang (2015); Alduais et al. (2022a) are of the view that corporate governance emerged as a response to the agency problem and a conflict of interest between a company's management, shareholders, and stakeholders. Moreover, instability and turmoil have affected some financial markets, as well as international companies, during periods of manipulation of financial statements, lack of corporate transparency, violation of shareholder rights, and the lack of a sound administrative structure capable of allowing shareholders to achieve their goals. Bimo et al. (2022); Feng et al. (2020); Nguyen et al. (2015); Shahid and Abbas (2019); Otman (2019) affirm that corporate governance is a good guide for companies, especially in balancing conflicts of interest between investors, company management, and other stakeholders.

Khanna and Zyla (2012) examined the effect of governance on investment decisions in institutional investors, private equity funds and pension funds in emerging markets (EME). They established that corporate governance was an important factor when making investment decisions and investors were prepared to pay better prices for firms executing good corporate governance practices compared to those poorly governed. In contrast, Useem and Mitchell (2008) showed that corporate governance has no relationship with the financial performance of investing firms.

The authors however, showed that governance influenced the kind of investment strategy used, which had a positive correlation to the financial performance of

investments of pension funds. In Switzerland, Manuel and Christian (2016) established that there is a direct relationship between corporate governance and financial performance of pension plans. The relationship however, is only slight to the category of assets selected. The study findings imply that application of good corporate governance framework and investment strategies by pension funds is postulated to enhance financial performance of pension funds.

The study results in addition, indicate that the individual contribution of investment strategy on the joint effect of the model was positive and significant (t = 2.942, p < .05) (Table 4.20). The results are in concurrence to the Modern Portfolio Theory (MPT) of Markowitz (1952) that provides a framework within which to make sensible asset management and allocation decisions. The theory postulates two main concepts: i) all investors have a basic objective of attaining maximum returns for any level of risk, ii) risk can be reduced by combining dissimilar financial assets to form a diversified investment portfolio. Investors select their preferred portfolios based on their specific risk predisposition.

The theory functions on assumption of investors being risk averse, hence they expect to be rewarded for taking additional risk; are rational; and have access to comparable information. The study findings were in line with the Markowitz's (1952) theory of Portfolio Diversification which has been instrumental in paving the way for modern asset pricing models to measure risks associated with equity returns such as the Capital Asset Pricing Model (CAPM) of Sharpe (1964), Linter (1965) and Mossin (1966). The research results revealed that the investment strategies employed positively and significantly influenced the combined ROI of pension funds as indicated by the coefficient IS Index of t = 2.942, p < .05 (Table 4.20).

A review of studies on the performance of investment funds have revealed mixed results. Blake, Lehmann and Timmermann (1999) analysed a data set on UK pension funds and found that strategic asset allocation accounts for most of the ex-post variation of UK pension funds' returns. In contrast, studies by Coggin et al., 1993; Daniel, et al. 1997; Blake et al., 1999 established that the vast majority of funds had negative market-timing estimates. Oppolito (1989) evaluated mutual fund data and found evidence that is consistent with optimal trading in efficient markets. Similarly, Grinblatt and Titman (1989) looked at mutual fund performance and tests indicated that the risk-adjusted gross returns of some funds were significantly positive. They concluded that risk-adjusted returns in the mutual fund industry, net of fees and expenses, are comparable to returns available in Index funds. The findings show that there are those that support market efficiency as well as those that reject it.

The study findings in addition, established that the effect of macroeconomic variables on the joint effect of the model were mixed. GDP Growth Rate (t = 2.024, p <.05), Commercial Banks weighted average lending interest rates (t = 6.078, p <.001) and CBK 91-Day T Bill (t = 5.197, p <.001) had a positive and statistically significant joint impact on the combined ROI of pension funds. In contrast, Inflation (t = -7.100, p < .001), Exchange rate (KS/US$) (t = -6.301, p <.001), Balance of

Payments (t = -6.058, p <.001), NSE 20 Share Index (t = -5.947, p <.001) had a negative and statistically significant joint effect on combined ROI of pension funds. Unemployment rate however, had a negative but statistically insignificant joint effect on the combined ROI of pension fund (Table 4.20).

The study results reveal on ANOVA Table 4.19 indicate that the F statistic, the test of the entire regression of the joint effect shows that at α = .01 the regression was statistically significant because the p value is < 0.001. The model was therefore significant in predicting the combined ROI of RBA registered pension funds with F (16,40) = 11.573, p < .001 suggesting that the final model had great explanatory power. Moreover, the Coefficients Table 4.20 nevertheless, shows that Board structure and composition (t = -.405, p = .687), Shareholder´s Rights (t = -1.422, p = .163, Disclosure and transparency (t = -.300, p = .766) showed a negative but statistically insignificant effect on combined ROI of pension funds. On the contrary, Commitment to corporate governance (t = .830, p =.412), Role of stakeholders (t = 1.583, p = .121), Stakeholders interests in board decisions (t = .987, p = .330) showed a positive but statistically insignificant effect on the combined ROI of pension funds.

The study findings are therefore in concurrence with the Arbitrage Pricing Theory (APT) of Ross (1976) which postulates that there is an association between expected return of a security and a set of systematic risk factors. Similarly, the study results are in agreement with those by Chen (1986); Roll & Ross (1980) which established that factors such as GDP, changes in inflation and interest rates affect expected stock return. Similarly, researchers including Fama (1990); Clare and Thomas (1994); Mookerjee and Yu (1997); Kwon and Shin (1999); Humpe and Macmillian (2007); Bodie et al. (2008); and Pilinkus (2010) found that factors such as real GDP, industrial production, lagged inflation and interest rate had a positive impact on stock performance. Furthermore, Chelangat (2014) observed that these factors are closely monitored by businesses, governments and pension funds. Locally studies by Olweny and Omondi (2011) and Ochieng and Oriwo (2012), investigating the relationship between firm performance and the Nairobi Securities Exchange (NSE) Index established that there is a significant association between the two variables.

The study findings thus established that the joint effect of corporate governance, macroeconomic variables and investment strategy on the pension performance is significant. The Arbitrage Pricing Theory (APT) by Ross (1976) suggests that there is an association between financial position of firms and a number of variables including change in GDP, interest, inflation and exchange rates among others. The theory thus offers a multifactor pricing model for securities by proposing that the return of securities is a linear function of the variables corporate governance, investment strategy and macroeconomic factors.

5. Conclusions and Recommendations

5.1. Conclusions

The research investigates the relationship between financial performance of pension funds registered by the RBA Corporate governance indicators of Board structure and composition, Board Responsibilities, Shareholder´s Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions, investment strategy and macroeconomic variables comprising GDP Growth Rate, Inflation, Exchange rate (KS/US$), Commercial Banks weighted average lending interest rates, CBK 91-Day T Bill, Balance of Payments, NSE 20 Share Index and unemployment rate.

The first hypothesis of the research investigated the effect of corporate governance on pension performance proxied by combined ROI of pension fund. The results indicated that the null hypothesis was rejected. The study findings reveal that only the Role of stakeholders had a statistically positive and significant effect on the combined ROI of pension fund. This is in agreement of the Stakeholders theory of Freeman (1984) which stresses the interconnected relationships between a business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization. The theory is based on the assumption that businesses can only be considered successful when they deliver value to the majority of their stakeholders. The conclusion from this finding is that a firm should create value for all stakeholders, not just shareholders.

In addition, the study results show that Board structure and composition, Disclosure and transparency and Stakeholders interests in board decisions revealed a positive but insignificant effect on combined ROI of pension fund. Though insignificant, it is in line with the Agency theory of Jensen and Meckling's (1976) which expounds on the association between the principal and the agent who may not act in the principal's best wishes hence the need to protect shareholders' interests, minimise agency costs and align principal-agents interest (Demsetz & Lehn, 1985).

Agency theorists such as Demsetz and Lehn (1985) prescribe various governance mechanisms to achieve that, including enhancing Disclosure and transparency mechanisms and taking into account Stakeholders interests in board decisions. The former will ensure that timely and accurate disclosure is made regarding the corporation including the financial situation, performance, ownership and governance of the company. This will help in making informed decisions by investors. As for the later it is in line with the stakeholder's theory which stresses the interconnected relationships between various stakeholders who have a stake in the organization and the theory's assumption that businesses can only be considered successful when they deliver value to the majority of their stakeholders.

The study findings on the variables Board structure and composition, Board Responsibilities, Shareholder´s Rights, Commitment to Corporate governance however, show a negative and non-significant effect on the combined ROI of pension fund. The findings imply that there was non-adherence to these governance frameworks by pension funds leading to declined performance of pension funds. This is in agreement with the Agency and Stakeholders theories.

The Agency theory aims at reducing agency costs incurred by the principal by imposing internal controls that keep the self-serving agent's behaviour in check. To achieve that agency theorists, prescribe various governance mechanisms including Board structure and composition, Board Responsibilities, Shareholder´s Rights and Commitment to Corporate governance. This harmonizes the interests of the managers and the shareholders to maximize company value (Maher & Andersson, 1999). For governance structures, boards of directors keep potential self-serving managers in check by performing audits, performance evaluations and prescribing alternative executive compensation schemes to provide rewards and punishments that are aimed at aligning principal agents' interests. Outside (non- management) board leadership and membership are desirable to ensure that proper management oversight occurs. The study results confirm the hypothesis that corporate governance has a significant effect on the financial performance of pension funds.

The second hypothesis of the research investigated the mediating effect of investment strategy on the relationship between corporate governance and pension performance. The later was proxied by combined ROI of pension fund. The findings indicated that the null hypothesis was rejected. Investment strategy was found to have a positive and significant effect on the relationship between corporate governance and combined ROI of pension fund. Corporate governance was found to influence combined ROI of pension fund through investment strategies, consistent to the Modern Portfolio Theory (MPT) that guides investment management decisions. The theory needs to be considered as it takes into account the different risk factors that determine the financial performance of the pension funds.

Step 2 of the research findings established that the entire regression indicates that the regression is positive and statistically significant in predicting the IS index with an $F_{(7,49)} = 71.819$, $p < .001$. Moreover, only Board structure and composition ($t = 5.032$, $p < .001$) had a positive and significant effect on the IS index whereas Board Responsibilities, Shareholder´s Rights, Disclosure and transparency and Role of stakeholders had a positive but insignificant effect. Furthermore, Commitment to Corporate governance and Stakeholders' interests in board decisions had a negative but insignificant effect on the IS index. Step 3 of the study on the other hand showed that the entire regression indicates that the regression is positive and statistically significant in predicting the combined ROI of pension funds with an $F_{(8, 48)} = 4.087$, $p < .001$. Moreover, IS index ($t = 3.526$, $p < .001$) had a positive and significant effect on the pension performance proxied by combined ROI of pension funds.

Step 4 of the study results nonetheless indicate that the entire regression indicates that the regression is positive and statistically significant in predicting the combined ROI of pension funds with an $F_{(1, 55)} = 12.386$, $p < .001$. The results are in concurrence with the research findings reported by Suartawan and Yasa (2016), Resti et al.(2019), SyamsudinI et al. (2020), Suardana et al. (2020), Mumpuni and Indrastuti (2021), and Agustin and Anwar (2022), which indicate that investment decisions have a positive effect on firm value. This implies that investment decisions

can increase a firm's value. On the contrary, the research results presented by Amaliyah and Herwiyanti (2020), Komalaet al. (2019), and Attarie et al. (2018) indicate that investment decisions had no effect on firm value.

In addition, the research indicated that only the Role of stakeholders showed a statistically significant positive effect on combined ROI of pension funds with a $t = 2.330$, $p < .05$. Disclosure and transparency, Stakeholders interests in board decisions and IS Index had a positive but insignificant effect on the Index combined ROI of pension funds. In contrast, Board structure and composition, Board Responsibilities, Shareholder´s Rights and Commitment to Corporate governance, had a negative but insignificant effect on combined ROI of pension funds. The findings confirm that through various prescribed governance mechanisms including Board structure and composition, Board Responsibilities, Shareholder´s Rights and Disclosure and transparency, combined ROI of pension fund can be improved through their influence on investment strategies. For instance, corporate governance enables the board and directors to provide the necessary oversight of the review of the core purpose and strategic investment plan. The study results however, indicate that Board Responsibilities, Shareholder´s Rights and Commitment to Corporate governance had a negative and non-significant effect on combined ROI of pension fund implying non adherence to the governance indicators.

The study findings suggest that different risk factors in the investment markets need to be taken into account when making investment management decisions as they differ in their influence on pension fund performance. Besides, the results suggest that knowledge of unsystematic risk factors is critical in the management of investments of various pension funds. This risk refers to those that are not shared with a wider market or industry. They are unique to a specific company or investment and are due to their management, financial obligations, or location. They can be reduced by diversifying one's investments through application of investment strategies. Jones (2009) defines investment strategy as a set of rules or procedures that guide an investor's selection of an investment portfolio. The strategy is designed around the investor's risk-return trade off. Thus, a well-planned investment strategy is essential before having any investment.

Decisions are ways by which an investor can acquire the expected return, given a specific risk tolerance level. Fama and French (1992 observed that investment strategies are adopted at organizational, industry and market level and serve as a guide for entering and selecting investment portfolios in anticipation of future gains (Butler, Davies, Pike, & Sharp, 1993). Hammer (2009) was of the view that the value of any firm can be viewed as the sum of the value of its investment projects. Thus, making the correct strategic investment decisions is of critical importance to maximizing the value of the firm. The study results confirm the hypothesis that IS Index has a significant mediating effect on the relationship between corporate governance and pension performance.

The third hypothesis investigated the moderation effect of macroeconomic variables on the relationship between corporate governance and combined ROI of pension funds. The results of the stepwise analysis of the regression

indicated that the "R Square Change", which indicates the increase in variation explained by the addition of the interaction term (the change in R^2), was realized in the models 2-4 of 0.073, 0.075, and 0.070 respectively. This implies that the R^2 change in the models 2-4 was 7.3%, 7.5% and 7% respectively, which is the percentage increase in the variation explained by the addition of the interaction variable NSE 20 Share Index in model 2, NSE 20 Share Index and Inflation rate in model 3 and NSE 20 Share Index, Inflation rate and GDP Growth Rate in model 4. The increase is statistically significant as indicated in the "Sig. F Change" column ($p < .05$), in all the 3 models. The study results suggests that the macroeconomic variables, Inflation rate and GDP Growth rate in addition to the factor NSE 20 Share Index, do moderate the relationship between CG indicators and combined ROI of pension funds.

The results are collaborated by findings in the ANOVA Table 4.14 which shows that the F statistic, the test of the entire regression shows that at α = .01 the regression of the four models are statistically significant because their p values are < 0.001. The models are therefore significant in predicting the combined ROI of pension funds: Model 1 F $(1,55) = 22.496$, $p < .001$; Model 2: F $(2,54) = 15.418$, $p < .001$; Model 3: F $(3,53) = 13.786$, $p < .001$; Model 4: F $(4,52) = 13.458$, $p < .001$.

The regression analysis of all the macroeconomic factors collaborates the findings of the stepwise regression analysis above. The results thus indicate that there is significant regression relationship between the dependent variable and the predictor variables as is indicated by a large F value and a small significance level. This suggests that the null hypothesis was not true, meaning that the 15 predictor variables are not all equal to each other and could be used to predict the dependent variable, combined ROI of pension funds.

The results are consistent with those by Chen, Roll and Ross (1986) who tested a set of economic data variables to explain the U.S stock return. They examined the influence of macroeconomic variables term structure, industrial production, risk premium, inflation, market return, consumption and oil prices in the period of Jan 1953- Nov 1984 on stock market return. There findings indicated that several of these economic variables were significant in explaining expected stock return during the tested period. Similar research findings were observed by scholars including Shanken (1982), Brown and Weinstein (1983), Cho, Elton and Gruber (1984), Connor and Korajczk (1986), Burmeister and McElroy (1988), Lehman and Modest (1988). The research findings thus confirm the hypothesis that macroeconomic variables have a significant moderation effect on the relationship between corporate governance and pension performance proxied by combined ROI of pension funds.

The final hypothesis of the study examines the joint effect of corporate governance, investment strategy and macroeconomic factors on financial performance of pension funds. The findings indicates that the joint effect is positive and statistically significant as the final model had great explanatory power for the independent variables corporate governance, investment strategy and macroeconomic factors. The research findings thus confirm the joint effect hypothesis that corporate

governance, investment strategies and macroeconomic variables have a significant effect on the combined ROI of pension funds though the individual contribution effects of the factors varied.

The findings suggest that implementation of the corporate governance framework has a positive impact on the financial performance of pension funds in concurrence with the Agency and Stakeholder theories. Moreover, the results suggest that different risk factors in the investment markets need to be taken into account when making investment management decisions as they influence financial performance of pension funds. This is in concurrence with the Modern Portfolio Theory (MPT), the APT and the CAPM theory.

Knowledge of both systematic and unsystematic risk factors is therefore critical in the management of investments of various pension funds. This implies that the MPT that guides investment management decisions as well as the APT. The later postulates that there is an association between expected return of a security and a set of systematic risk factors and the CAPM theory that describes the relationship between systematic risk, or the general perils of investing, and expected return for assets, needs to be taken into consideration as they take into account different risk factors that determine the financial performance of the pension funds. This confirms that pension funds management should focus on implementing all dimensions of corporate governance and investment strategies to improve pension fund financial performance. The research findings thus confirm the hypothesis that the joint effect of corporate governance, IS Index and macroeconomic variables on combined ROI of pension funds was significant.

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