Article Title (*Corporate governance, investment strategy, macroeconomic variables and financial performance of pension schemes in Kenya*)

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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

1.0 INTRODUCTION

1.1 Background of Study

The financial performance of pension schemes in Kenya has of late become a critical issue following increased cases of scandals and losses of some schemes in the country. Farah, Ijaz and Naqvi (2016) 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 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 (2003) argue that industry or external firm factors play a more important role in dictating the influence of firm performance. Others by Opler and Titman (1994) 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. In recent, years, corporate governance (CG) 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. Subsequently a number of pension funds worldwide declined in their financial performance as indicated by major reductions in pension fund assets (OECD, 2008), exacerbated the threat of pension funds failing to provide retirement income (Besley & Prat, 2005) .

The Retirement Benefits Industry plays a major role in the world economy. Studies by Heijdra, Ligthart and Jency (2006); Watson (2007); and Yermo (2008) 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 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% (RBA, 2022).

Most studies particularly, in the developed world have examined the various factors impacting pension performance. Nonetheless their findings have been mixed and sometimes necessitating further research on the subject. The article is organized as follows: 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 (2003) defined CG 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 (1999) opine that improvement of performance of pension funds can be achieved by application of CG principles that influence development and functioning of capital markets, besides resource allocation. Shamim, Kumar and Soni (2014) affirm that improved integrity and efficiency of firms as well as capital markets has an association with good CG. Bushee, Carter and Gerakos (2007), as well as Leuz, Lins and Wamock (2007) support the assertion that investors exhibit preference for well-governed firms.

Chow (2005) argues that a firm's governance practices determines its behavior which subsequently impacts its stock market value. Equally, Shleifer and Vishny (1997) and Watson (2007) 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, (2001) nonetheless, observes that no globally accepted governance principles that safeguards and promote shareholders' assets exist meaning that their use varies across countries. Some good CG practices include accountability, transparency, and rule of law, inclusivity and disclosure (Bhasin, 2013)

The increase in reported high profile cases of governance failure and misconduct following an upsurge in regional market crisis and large corporate failures raises the question: Where were the regulators? 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 (Palacios, 2001).

The Agency theory of Jensen and Meckling (1976) 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 (1989) affirms that the main focus of good governance is the implementation of contracts that result in improved business performance and decrease risk. Similarly, David and Impavido (2003), advocates the view that the theory encourage agents to act in the interest of shareholders as well as reduce them from acting inaptly.

In a number of countries, policy makers strive to mitigate flaws in governance through such measures as legal and regulatory instruments besides voluntary codes and principles. Such include the Sarbanes Oxley Act (SOX) of 2002 in the US, the Cadbury Code in the UK, and the Cromme Code in Germany. 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 (Kamran & Shah, 2014). 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 on the impact of CG on financial performance of pension funds in developing countries hence the need for further studies.

1.1.2 Investment Strategy

Bilaus (2010) defines investment strategy as a set of guidelines that help investors choose assets in a portfolio based on investment objectives and tradeoff between risk and return. According to Tonks (2006), 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. It is therefore critical that the investment function is managed responsibly.

Tan and Luo (2021) affirm 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 Afsar and Karaçayir (2020), Pramartha et al. (2020), Tonks (2006) and Susanti et al. (2019) support the notion that investment decisions influence firm value. The OECD developed guiding principles on Pension Fund Asset Management to improve portfolio management. Such include setting pension fund objectives; prudential principles; prudent person standards; investment policy; portfolio limits; and valuation criteria of pension assets (OECD, 2006).

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 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 theory 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.

Sharpe (1992) 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) avow that it is possible to outperform the S&P 500. Sharpe (1991) and Ippolito

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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 actively managed portfolios in most cases. The results are in line with Fama's (1969) 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. The mixed results create a need for further research. Locally, empirical literature is limited on effects of investment strategy on pension performance.

1.1.3 Macroeconomic Factors

Macroeconomic factors are described by Brinson et al. (2009) as factors 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 financial, natural, or geopolitical events, Gross Domestic Product, changes in interest rates, inflation rates, and unemployment rate. The natural disasters comprise earthquakes, changes in money supply as well as civil or international war.

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. Similarly, Kahraman (2011), Liu and Pang (2009) affirm that investors select assets in a portfolio based on these factors to improve portfolio performance. The Arbitrage Pricing Theory (APT) by Ross (1976) suggests that there is an association between financial position of firms and macroeconomic variables. The theory offers a multifactor pricing model for securities by proposing that the return of securities is a linear function of these factors.

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) 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. Locally, studies by Olweny and Omondi (2011) and Ochieng and Oriwo (2012) revealed that there is a significant link between firm performance and the Nairobi Securities Exchange (NSE) Index. 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); Naz, Ijaz & Naqvi (2016)). It shows how well a firm utilizes its resources to maximize the shareholders wealth and profitability. Walker and Iglesias (2007) 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. Fama's (1991) Efficient Markets Hypothesis nonetheless, 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 nevertheless, remains a key aspect of financial risk managementas it is crucial in the effective and efficient management of firms, particularly in the enhancement of its processes to boost their total value (Carton (2004).

Tapia (2008a,b) as well as Ijaz and Faizan (2016) aver 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 note that the 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.

Frank K. R. and Keith C. B. (2011) state that accounting-based performance metrics are also used to evaluate firm's financial performance as they determine how efficient a company is at generating profits. They include return on investments such as Return on Equity (ROE) and Return on Assets (ROA). ROA 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 measures the profitability of a business relative to its total assets. In contrast, ROE 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 the market

based measure of Tobin Q (Daily & Dalton, 1993; Hermalin & Weisbach, 1991 and Lam & Lee, 2008). Pension funds performance can also 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, where:

$$\text{Return on assets/portfolio} = \text{Net Income} \div \text{Average total assets.}$$

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

Fama and French (1996) discern 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 (OECD, 2002). The OECD classifies schemes using the multi-pillar approach into three types: the First pillar, publicly managed pension schemes; the second pillar and the third Pillar. The first pillar comprise Defined Benefits (DB) and Pay-as-You-Go (PAYG) 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; DB or 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. The later comprised pooled companies that could not create their own financially feasible 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. The government in 1997 enacted the Retirement Benefit Authority (RBA) Act Cap 197 to restructure the sector to address emerging issues. 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 continued to face major challenges ranging from operational malpractices, misappropriation of scheme funds and lack of transparency.

1.2 Research Problem

For the last decade, Pension industry in Kenya has been faced with a major challenge 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.

Locally, a limited number of studies have been carried out on the subject resulting in inadequate empirical evidence. They were based on different methodologies and were focused on other sectors of the economy. Mutegi (2014) and Njuguna (2011) 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 (2011), Ochieng and Oriwo (2012) as well Osoro (2015) established mixed results. Interest and inflation rates, money supply, and real GDP impacted either positively or 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. These results imply that there is need to investigate factors influencing pension performance in Kenya.

Studies by Opler and Titman (1994) suggest that firm specific or internal factors such as CG and 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 (2005), Manuel and Andreas (2008) 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

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the association between CG and pension 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 CG in the pension industry has come to light of late following both regional and international market crisis and large corporate failures. The Asian Financial Crisis of the "Tiger economies" of 1997 resulted in their capital markets and currencies lose 70% of their values (Kuepper (2019). Similarly, Amadeo (2019) as well as Antolín and Stewart (2009) 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? Even so, where were the directors? These are the questions that Policymakers are making as they set out, to make the financial system less crisis-prone. These findings suggests serious lapses of oversight not just from regulators but at the board level.

The pension industry in Kenya too is faced with several challenges 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. Such includes 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 pension scheme. The situation was worsened by deteriorating economy. Since there is no conclusive identification of the factors determining pension performance in Kenya, the study seeks to investigate those influencing pension performance in the country.

1.3 Research Objectives
The main purpose of the study was to investigate the impact of CG, investment strategy and macroeconomic factors on performance of pension schemes in Kenya. Specifically, the study sought to:
1) Assess the impact of CG on pension funds performance in Kenya.
2) Evaluate the influence of investment strategy, an intervening factor on the link between CG and retirement benefit schemes performance in Kenya.
3) Investigate the impact of macroeconomic variables, moderating factors, on the link between CG and pension funds performance in Kenya.

4) Examine the combined effect of CG, investment strategy and macroeconomic variables on pension performance in Kenya.

2.0 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.

2.2 Theoretical Foundation of the Study
The main theory anchoring the study is the Agency Theory though it is supported by three others namely the Modern Portfolio Theory, the Stakeholders Theory, and the Arbitrage Pricing Theory.

2.2.1 The Agency Theory (AT)
The Agency theory (AT) explains the relationship between the principal who employs another party the agent to work on its behalf in an organisation (Jensen & Meckling's, 1976). The agent may not act in the principal's best interests due to the separation of ownership and control. Demsetz and Lehn (1985) observes 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, thus 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 (1976) notes that companies are considered as a network of contracts among various stakeholders whose payment claims 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.

Agency problems are classified based on the conflicts between different parties of the organization (Jensen & Meckling, 1976, Barnes et al., 1985; and John & Senbet, 1996). Such 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).

John and Senbet (1998) assert that agency problems diminish efficient operations of firms leading to adoption of ineffective investment strategies that are detrimental to economic growth and development. Thus, they argue that the economic environment that enhances the application of good CG practices as well as the execution of quality contracts among parties with diverse interests, promotes efficient allocation of resources and, ultimately economic development. Similarly, Maher and Andersson (1999) advocates the view that the AT's main purpose is to limit agency costs by harmonising interests of the managers and the shareholders to maximize firm value. In agreement, Demsetz and Lehn (1985) prescribe several governance mechanisms to protect shareholders interests, minimise agency costs and ensure principal-agents interest alignment.

The AT theory has however, encountered a number of criticisms. Donaldson (1990) 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 study as it provides direct link between governance indicators and retirement benefit schemes' performance to explain the relation between parties' interest. The research therefore investigated the impact of CG indicators on financial performance of pension schemes in Kenya.

2.2.2 Stakeholder Theory

Freeman, Harrison, Wicks, Parmar and De Colle (2010) state that the "Stakeholder theory" (SHT), 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 (1984) avows that the theory accounts for multiple players impacting 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 discern that by managing strong stakeholder relationships, a business can improve its performance.

Preston and Donaldson (1995), Mayer (1996) as well as Post et al. (2002) identifies stakeholders to include 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. They 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. They argue that "The 21st Century is one of Managing Stakeholders and that company executives need to create value for all stakeholders, not just shareholders." Milton (1990) however, observes that the shareholder theory sharply contrasts the SHT. The author 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.

Preston and Donaldson (1995) besides Jones and Wicks (1999) 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.

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 arising from 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. Jensen (2000), 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 view that most of the current managerial opportunism is carried out with the goal of shareholder maximization as was the case in the Enron and WorldCom sagas.

2.2.3 Modern Portfolio Theory

The Modern Portfolio Theory (MPT), the efficient frontier of Markowitz (1952) provides a framework apon which one can make sensible asset management and apportionment decisions. The investment theory proposes two main concepts: *i)* all investors pursue to attain maximum returns for any level of risk; ii) risk reduction can be attained by combining unrelated financial assets to form a diversified investment portfolio. Sharpe (1964) and Lintner (1965) classified risk into systemic, those inherent in the capital market and un-systemic, those associated with each particular stock and are company-specific. The later that are lowered by diversification.

Lately the theory has been challenged by a number of scholars. Haugen and Heins (1975) as well as Murphy (1977) assessed the risk-reward relationship and established that it was far weaker than expected. Behavioural economists such as Gregory (2002) established that not all investors act rationally. Moreover, the theory makes many incorrect assumptions about investors and markets and neglect taxes and transaction fees.

Fama (1970) opines that one of the key assumptions of the MPT is the Efficient Market Hypothesis (EMH) which states that financial markets are "informationally efficient ". This means that asset prices reflect all available information suggesting 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. In the weak form prices of traded assets reflect all past publicly available information. In the semi-strong form prices reflect all publicly available information and that prices change to reflect new public information. In the strong form prices instantly reflect even hidden or "insider" information. Andrei (2000) observes that there is evidence for and against the weak, semi-strong and strong forms.

Several scholars have critiqued the MPT. Chandra (2003) observes 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. He 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.

2.2.4 The Arbitrage Pricing Theory

The Ross's (1976) Arbitrage Pricing Theory (APT), a multi-factor pricing model for securities, 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) using the model showed that stock return was influenced by several independent variables including GDP, changes in inflation and interest rates.

A number of weaknesses of the theory have however, been identified with the main one being its generality. Huberman (2005) asserts that the theory fails to explain the theoretical reasons for selecting identified systemic factors as well as their number. Likewise, Roll (1977) observes 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, CG, 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

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

Where:

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

α_i = the stock specific effect for stock i,

$F_j\text{'s}$ (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
2.3.1 Corporate governance and Firm Performance
Existing empirical literature on CG is mainly from US and OECD firms (Maher & Andersson, 2000). In line with these studies, Gompers et al. (2001), La Portaet al. (2001) as well as Lombardo and Pagamo (1998) showed that the financial performance of firms was influenced by the level of shareholder rights and the competence of existing court systems. In particular, they established that enhanced shareholders' rights resulted in higher financial performance of firms. Similarly, Besley and Prat (2003), Mitchell and Yang (2005), besides 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. In agreement, Zahra and Pearce (1989) suggests that outsiders tend to be objective, unbiased and independent. Jensen (1993) and Guest (2009) too established that smaller boards works more effectively in increasing firm performance than larger boards. The studies propose that an increase in board size increases agency problems as 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.

Mixed and sometimes inconclusive results on the relations between CG and firm performance were also found by other 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. Locally, studies on impact of CG on firms are in the early stages of development and have tended to focus on different sectors and not pension sector. Moreover, different methodologies and variables were used. One such is that of Ongore and Kobonyo (2011) that 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 while Lishenga (2012) established that improved regularity of board meetings

enhanced firm performance. None of these studies however, examined the influence of other factors nor assessed the effect of multiple factors using a multi-equation approach or a composite measure of CG on firm performance. Further studies are thus required to establish the influence of CG and other factors using a multi-equation approach from a developing country's perspective on pension performance in Kenya.

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 (2008) 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. In another study, 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.

Locally, Osano (2013) investigated the effect of investment strategies (active or passive) adopted by 19 investment funds listed by the Capital Market Authority as of 2013 on financial performance of the funds in Kenya. They established that active investment strategy had a positive effect on performance. A review of the studies above indicates that most of the studies were carried out in developed economies where the level of development of capital

Commented [WA1]:

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markets is more advanced. Studies carried out too did not take into account the interaction of multiple factors. Moreover, only a limited number of local studies have investigated the impact of CG and investment strategy on financial performance of pension schemes. It is against this backdrop that this study was undertaken to fill the gap.

2.3.3 Corporate Governance, Macroeconomic factors and Pension Performance

Most of the available evidence on studies examining return of pension funds is indirect and not necessarily linked to pension funds but to securities that pension funds invest in. Such studies included those by Chen (1991); Black, Fraser and MacDonald (1997); Humpe and Macmillian (2007); Mukherjee and Yu (1997) as well as Kwon and Shin (1999) in developed countries and EMEs. They 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 revealed 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.

Equally, Singh (2010) assessed the impact of exchange rates, industrial production, and wholesale price Index on stock return of the Bombay Stock Exchange (BSE) Sensex from 1994/95 to 2008/09. The author found mixed results. 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 the Indian Capital Market asset's prices fully reflect existing information on exchange and inflation rates. In Kenyan, studies by Olweny and Omondi (2011) and Ochieng and Oriwo (2012) 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.

A review of existing literature nevertheless reveals that none of the studies used a multifactor model to evaluate the impact of CG, macroeconomic variables and investment strategy on financial performance of pension funds, hence the need for further research.

2.3.4 Empirical evidence on the joint effect of corporate governance, investment strategy and macroeconomic factors on pension performance

Empirical studies focusing on the effect of multiple factors on pension performance are limited both in the developed and developing countries. This is a research area needing 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 the gap by using a multifactor model to investigate the joint effect of governance, investment strategy and macroeconomic factors on pension performance in Kenya.

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 and in a number of cases the results were inconclusive. The studies too did not take into account the effect 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 also not exploited.

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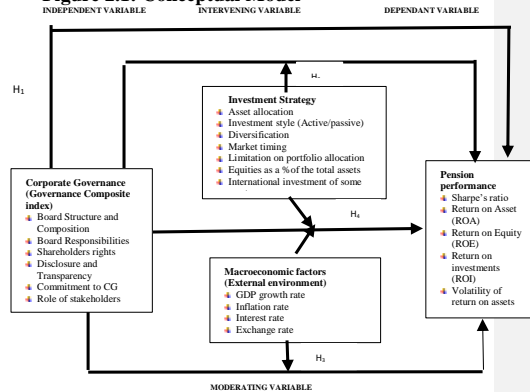
Source: Author's primary analysis, 2023

Figure 2.1 above shows the relationship amongst the study variables.

2.6 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 CG and financial performance of pension plans.
3) H_3: Macroeconomic variables have significant moderating effect on the relationship between CG 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.

3.0 RESEARCH METHODOLOGY
3.1 Research Design
Research design is overall strategy 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 methods: qualitative, quantitative, or mixed methods.

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. It involved survey questionnaires, interviews and documentation review (Neuman, 2006) whose results estimated both the CG Index and IS Index. The study also used quantitative research designs that included descriptive, correlational, survey, longitudinal and developmental designs.

3.2 Population of the Study
Population of a study is described as the entire set of subjects that have similar characteristics that are the interest of a researcher (Mugenda & Mugenda, 2003). For the study it comprised 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. The unit of analysis was each of the individual or umbrella pension schemes or targeted fund managers for these schemes.

3.4 Sample Design
Random sampling was applied to produce results that can be generalized to the population. 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:

$$n = Z^2*N*\partial_p / \{(N-1) * e^2 + (Z^2*\partial^2_p)\}$$
$$n= \frac{1.96^2*73*0.5^2}{\{(73-1)*0.05^2+(1.96^2*0.5^2)\}}$$
$$= 67.2768 / 1.1016$$
$$= 61.0718954$$

Where; N=73, the population size; e= 0.05, margin of error; ∂p = 0.5, the standard deviation of the population; and Z = 1.96 at 95% confidence level. A sample of 61 pension schemes was therefore 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. Quantitative data on monthly value of pension assets and their returns was obtained from individual pension funds records and annual reports. Market surveys, annual reports and publications from the CBK and the KNBS provided quantitative data on macroeconomic factors 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 while IS index is a composite measure indicating the level of application of the investment strategies. The respondents for the questionnaires included elected members of the schemes' trustee sponsor, elected trustee, corporate trustee scheme administrator, scheme manager and custodian actuary.

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

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product moment and analysis of variance (Baron & Kenny, 1986). For this model:

Pension Financial Performance = a + b₁CG+ b₂IS + b₃Macro + e.

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

4.0 HYPOTHESES TESTING AND DISCUSION OF THE FINDINGS

4.1 The relationship between CG and the combined Return on Investment (ROI) of pension funds

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

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

Pension Financial Performance (combined ROI of pension funds)
= a +b₁GG + e
Combined ROI of pension funds = a + b₁ BSC +b₂ MP+ b₃TD + b₄ 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

Table 4.1: Model Summary^b of effect of CG on the combined ROI of pension funds

Model Summary^b

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	.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

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 moderate 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 BSC, BR, SR, D&T, CCG, RS, SIBD (CG indicators).

Table 4.2: ANOVAa of the relationship between CG 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

ANOVA Table 4.2 shows that the F statistic, the test of the entire regression shows at α = .05, 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 $F_{(7, 49)} = 3.977$, $p < .05$.

Table 4.3: Coefficienta of the relationship between CG and the combined ROI of pension funds

Coefficients^a

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

The study results in the coefficient Table 4.3 above however, indicate that only the RS (t = 2.934, p < .05) show a statistically significant positive effect on combined ROI of pension funds. BSC (t = .765, p = .448), D&T (t = 1.073, p = .288), and SIBD (t = 1.252, p = .217), had a positive but statistically insignificant effect on the combined ROI of pension funds. In contrast, BR (t = -1.203, p = .235), SR (t = -.583, p = .562), and CCG (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 CG 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.

Seven sets of regression models were utilized to separately establish the intervening effect of IS Index on the relationship between CG and financial performance of pension plans. Baron and Kenny's (1986) as well as Hsu, Wang and Hsu's (2012) three

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steps were followed to examine the intervening effect. The below 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
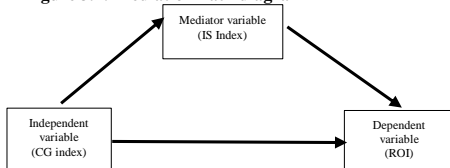 a_0=regression constant
      X= composite score for CG indicator
      Me=mediating factor-composite score for IS
      R = Pearson's product moment correlation

Figure 3.1: Mediation Path diagram

Source: Author's primary analysis, 2023

It is noted that Step 1-3 established the zero order relationship among the variables existed. Since in all the relations were significant as indicated by Tables 4.1- 4.9 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	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
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: ANOVAa 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: Coefficientsa of IS Index and CG indicators

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Correlations Zero-order	Partial	Part	Collinearity Statistics Tolerance	VIF
1	(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

4.4.3 Step three of testing the relationship between combined ROI of pension funds and IS Index
Step 3: Y=$a_0 + \beta_2 Me + \varepsilon$
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	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
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: ANOVA^a of Combined ROI of pension funds and IS Index
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26896.217	1	26896.217	12.386	<.001^b
	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: Coefficients^a of Combined ROI of pension funds and IS Index
Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Correlations 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

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= $a_0 + \beta_2 Me + \beta_1 X_1 + \varepsilon$
Table 4.10: Model Summary
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.637^a	.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
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59291.006	8	7411.376	4.087	<.001^b
	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

	Coefficients[a]									
	Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	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

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 (Table 4.10). This implies 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.

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 RS (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:

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.

H₃: Macroeconomic variables have a significant moderating effect on the relationship between CG and financial performance of pension plans.

Figure 3.2: Moderation path diagram
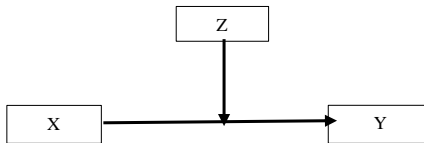
Source: Author's primary analysis, 2023

The standard method of determining whether a moderating effect exists entailed the addition of an (linear) interaction term in a multiple regression model, 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: Model Summary[e]

					Change Statistics					Durbin-Watson
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	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: ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	42476.570	1	42476.570	22.496	<.001[b]
Residual	103850.221	55	1888.186		
Total	146326.791	56			
2 Regression	53187.612	2	26593.806	15.418	<.001[c]
Residual	93139.180	54	1724.800		
Total	146326.791	56			
3 Regression	64137.277	3	21379.092	13.786	<.001[d]
Residual	82189.514	53	1550.746		
Total	146326.791	56			
4 Regression	74430.932	4	18607.733	13.458	<.001[e]
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 4.13 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

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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 $\alpha = .01$ 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.

4.4.6 Regression analysis of the moderating effect of macroeconomic variables on the relationship between CG indicators and the combined ROI of pension funds
Table 4.15: Model 5 Summary

Model Summary[b]

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	.885[a]	.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

Table 4.16: ANOVA

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	114707.750	15	7647.183	9.916	<.001[b]
	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 CG 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 $\alpha = .01$ 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 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-DT Bill - 8066.328BP- 2.087NSE 20 Share Index - 73.318UR.

Table 4.17: Coefficients

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics 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

4.4.7 The Joint effect of CG 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 and investment strategy is statistically significant on the financial performance of pension schemes registered by the RBA.

The regression results of the study are tabulated on tables 4.18-4.20.

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

				Std. Error of the Estimate	Change Statistics					
Model	R	R Square	Adjusted R Square		R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.907a	.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	<.001b
	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

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

	Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
Model	B	Std. Error	Beta	T	Sig.	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 $\alpha = .01$ 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 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 BR (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.

4.5 Discussion of the Findings
4.5.1. The relationship between CG and Combined Return of Pension Funds

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The first objective of the study was to examine the effect of CG on combined return of pension funds registered by the RBA. The study hypothesis stated that the relationship between CG 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 CG indicators. The RS 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 RS measures resulted in increase in the combined ROI of pension funds. Thus the RS 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, suppliers, the local community, future generations and promote shareholder value.

Preston and Sapienza, 1990; Sisodia, Wolfe and Sheth, 2007; Fombrun and Shanley, 1990; as well as Greenley and Foxall, 1997 research results support the notion that business organizations should serve the interests of multiple stakeholders and that such service is associated with higher financial performance. Nevertheless, other studies find conflicting results between social orientation and firm performance (Aupperle, Carroll and Hatfield, 1985; Agle, Mitchell and Sonnenfield, 1999). Social orientation is often taken as emblematic of "stakeholder orientation". The results are also in agreement with the G20/OECD Principles of CG (2015) which affirm that CG ensures that interests of many constituents are taken into account and assure that corporations operate for the benefit of society as a whole.

Besides, the study results on the other CG indicators are in concurrence with the Agency Theory (AT) though they were insignificant. The AT advocates the view that CG reduces agency conflicts between those who control and those who own the residual claims in a firm thereby helping to align management's goals with those of the stakeholders of increasing firm performance. The results on BSC (t = .765, p = .448), D&T (t = 1.073, p = .288) and SIBD (t = 1.252, p = .217) 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 CG arrangements. The Board therefore has the first level responsibility for executing the essential pillars of CG such as accountability; oversight and monitoring; risk management; transparency; legal and regulatory compliance; strategy formulation; and policy development. The findings are consistent with those of Besley and Prat (2003), Mitchell and Yang (2005), as well as Manuel and Andreas (2008) who found positive relationship between good CG and pension performance.

The BSC 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 BSC standards should have a positive correlation with pension funds financial performance. The research results align with Wagner et al. (1998) findings 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.

D&T are essential elements of a robust CG 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 CG (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. Thus, 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. The study results are in congruence with the G20/OECD Principles of CG (2015) on D&T.

The study results on BR (t = -1.203, p = .235), Shareholder´s Rights (SR) (t = -.583, p = .562) and 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 in pension performance. This is attributed to none implementation of the stated CG framework by pension funds. The results are in-line with the G20/OECD Principles of CG (2015) or the Agency or the Stakeholder theories.

For the case of SR, the OECD (2015) is of the view that CG 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 effecting shareholders rights should result in improved performance of pension funds. The study results collaborates those by Maher and Andersson (2000); Gompers et al., 2001; La Porta, et al., 2001; as well as those by Lombardo and Pagamo, 1998 who established that the financial performance of firms was influenced by the level of shareholder rights and the competence of existing court systems. In particular, they ascertained that enhanced shareholders' rights resulted in higher financial performance of firms.

Locally, Ongore and K'Obonyo (2011) investigated 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 partially collaborate the outcomes of the study. 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.

Clarke (2009) however, 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. A possible explanation for these results is that there could be other factors influencing pension performance.

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 CG 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. 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 reveals that step 1-3 established that there exist the zero order relationship among the variables. Since all the relations were significant as indicated by Tables 4.1- 4.9, the study proceeded to step 4.

Step four of the mediation process which involved expressing combined ROI of pension funds as a function of intervening factor IS Index and CG 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. The F statistic, the test of the entire regression showed 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 however, establishes that only the RS had a significant positive effect on combined RIO of pension funds with a $t = 2.330$, $p < .05$. In addition, the findings reveal a positive but insignificant effect of D&T, SIBD and IS Index. The other factors of BSC, BR, SR and CCG had a negative but insignificant effect in predicting combined ROI of pension funds. The IS Index was positive though, non-significant in predicting combined ROI of pension funds.

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

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forcing firms to make tradeoff amongst its practices towards diverse stakeholders. Similarly, the study results align with the findings of Ontita and Kinyua (2020) who established that stakeholder management positively influences affected performance of Commercial Banks in Kenya.

The result are in line with the G20/OECD Principles of CG 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 results are also in concurrence with Fama's (1978), Bajo et al. 1998, Efni (2017), Soumaya (2015) and Susanti et al. (2019) findings on the investment strategy that investment decisions can increase firm value. Moreover, they are consistent with the findings of Blake, Lehmann and Timmermann (1999) who examined UK pension funds and found that strategic asset allocation accounts for most of the ex-post variation of their returns. Equally, Chen and Liang (2005) found evidence of positive relationship between market timing and returns.

The results however, are in contrast with studies by Coggin et al., 1993; Daniel, et al. 1997; Blake et al., 1999 who established that the vast majority of funds had negative market-timing estimates. Similarly, Brio et al. (2003), and Lin and Kulatilaka (2007) who showed that investment decisions tend to suppress increases in firm value. Oppolito (1989) examined mutual fund data in SA and found evidence that is consistent with optimal trading in efficient markets. They concluded that risk-adjusted returns in the mutual fund industry, net of fees and expenses, are comparable to returns available in Index funds. Others such as 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. 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.

The study results suggests that investment strategy is key in influencing pension funding. Fama and French (1992) observed that investment strategies are ways by which an investor can acquire the expected return, given a specific risk tolerance level. CG influences combined ROI of pension funds through investment strategy by influencing the type and quality of investment strategies. The later influences the combined ROI of pension funds. Companies that embrace good CG practices achieve greater accountability in their investment decision-making processes. CG therefore 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, CG enables company boards to prioritize accountability when making investment decisions. Moreover, it 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.

4.5.3 The relationship b]etween Macroeconomic Variables, CG and Combined ROI 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 study was carried out to investigate moderating effect of macroeconomic variables (moderators) on the relationship between CG 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. 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 variables in model 2, in model 3 and 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 examined macroeconomic variables, do moderate the relationship between CG indicators and combined ROI of pension funds. The results are collaborated by findings in the ANOVA Table 4.18 which shows that the F statistic 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.

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 CG indicators and macroeconomic variables. 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 (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 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. The result are in line with the G20/OECD Principles of CG which are meant to support economic efficiency, sustainable growth and financial stability of companies. In general, the study establishes the acceptance of six hypotheses involving macroeconomic variables and one of Role of stakeholders.

4.5.4 The joint effect of CG, investment strategy and Macroeconomic variables, and combined return of pension funds

The fourth objective of the study was to examine the joint effect of CG, 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 these factors on combined ROI of pension funds was statistically significant. The results however, revealed mixed findings particularly for CG indicators and macroeconomic variables.

For the case of CG indicators, the impact of BR 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 BR measures lead to statistically significant decline in the combined ROI of pension funds. Moreover, BSC, SR and D&T were negative but statistically insignificant. This too suggests that non adoption of measures of these indicators resulted to the decline in the combined ROI of pension fund though statistically insignificant. In contrast, the results were positive but statistically insignificant for CCG, RS and SIBD. Thus, application of these CG indicator measures resulted to increase in the combined ROI of pension funds even though it was not statistically significant. The findings

suggests that application of CG principles will lead to improved financial performance of pension firms.

The findings are in agreement with the G20/OECD Principles of CG (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 CG, 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 management of 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.

Based on the Agency theory, the importance of CG is to reduce agency conflicts between those who control and those who own the residual claims in a firm. Thus, CG as a mechanism helps to align management's goals with those of the stakeholders of increasing 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 CG 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 CG is an important and effective technique for enhancing

investors' confidence in existing and prospective companies and for creating opportunities for safe investment. 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. 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, summarized as CG. A weak CG 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

Useem and Mitchell (2008) 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. In Switzerland, Manuel and Christian (2016) 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. The study findings imply that application of good CG 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. The study results are also partially in line with study findings which have revealed mixed results. Blake, Lehmann

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and Timmermann (1999) examined 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. They concluded that risk-adjusted returns in the mutual fund industry, net of fees and expenses, are comparable to returns available in Index funds. These findings show that there are those that support market efficiency as well as those that reject it.

In addition, the research established that the effect of macroeconomic variables on the joint effect of the model were mixed as revealed by the R^2, the ANOVA test and coefficient Tables 4.17- 4.20. The study findings are therefore partially in concurrence with the APT of Ross (1976) which postulates that there is an association between expected return of a security and a set of systematic risk factors. The results are also aligne to those by Chen (1986); Roll & Ross (1980) which established that factors such as GDP, changes in inflation and interest rates affect expected stock return. Equally, researchers including Fama (1990); 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. Chelangat (2014) observed that these factors are closely monitored by businesses, governments and pension funds. Locally, studies by Olweny and Omondi (2011) as well as 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 revealed that the joint effect of CG, macroeconomic variables and investment strategy on pension performance is significant in line with the APT of Ross (1976). The theory thus offers a multifactor pricing model for securities by proposing that the return of securities is a linear function of the variables CG, investment strategy and macroeconomic factors.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.2 Conclusions
The research investigated the relationship between financial performance of pension funds registered by the RBA and the factors CG indicators, investment strategy and macroeconomic variables.

The first hypothesis of the research examined the effect of CG on pension performance. The results indicated that the null hypothesis was rejected. The study results confirm the hypothesis that CG has a significant effect on the financial performance of pension funds. The study findings however, 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 and 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 BSC, D&T and SIBD revealed a positive but insignificant effect on combined ROI of pension fund. Though insignificant, they align 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. The study findings on the variables, BR, SR, and CCG however, showed a negative and non-significant effect on the combined ROI of pension fund implying that there was non-adherence to these governance frameworks by pension funds. This led to declined performance of pension funds. This too is in agreement with the Agency theory. Demsetz and Lehn (1985) as well as Maher and Andersson (1999) concur and observe that governance mechanisms harmonise interests of the managers and shareholders to maximize firm value.

The second hypothesis of the research investigated the mediating effect of investment strategy on the relationship between CG and pension performance. The findings indicated that the null hypothesis was rejected. Investment strategy was found to have a positive and significant effect on the relationship between CG and combined ROI of pension funds. CG was found to influence combined ROI of pension fund through investment strategies, consistent to the Modern Portfolio Theory that guides investment management decisions taking into account the different risk factors that determine the financial performance of pension funds. 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.

The third hypothesis investigated the moderation effect of macroeconomic variables on the relationship between CG 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, was realized in the models 2-4 and that the increase was 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 4.17 which shows that the F statistic, the test of the entire regression shows that at $\alpha = .01$ the regression of the four models are statistically significant because their p values are < 0.001 implying that the models are significant in predicting the combined ROI of pension funds.

The regression analysis of all the macroeconomic factors collaborates the findings of the stepwise regression analysis above that there is significant regression relationship between the dependent variable and the predictor variables. The results are consistent with those by Chen, Roll and Ross (1986) who tested a set of economic data variables (term structure, industrial production, risk premium, inflation, market return, consumption and oil prices) to explain the U.S stock return. Similar research findings were observed by Shanken (1982), Brown and Weinstein (1983), Cho, Elton and Gruber (1984), Connor and Korajczk (1986), Burmeister and McElroy (1988), Lehman and Modest (1988). The results thus confirm the hypothesis that macroeconomic variables have a significant moderation effect on the relationship between CG and pension performance.

The final hypothesis of the study examines the joint effect of CG, investment strategy and macroeconomic factors on financial performance of pension funds. The results indicate that the joint effect is positive and statistically significant as the final model had great explanatory power for the independent variables, though the individual contribution effects of each of the factors varied.
The findings suggest that implementation of the CG framework and investment strategy had a positive

impact on the financial performance of pension funds in concurrence with the AT, SHT and MPT. Moreover, the results on macroeconomic factors align with the APT which suggests 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.

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