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 the financial performance of pension funds. Quantitative data on the 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 pension funding differently. The 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 a need to take into account the impact of these factors in the execution of investment plans of pension funds to ensure the generation of adequate funds for retirement benefits.

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1. Introduction

Financial performance indicates how well a firm utilizes its assets to make the most of the owners' wealth and profitability, a key aspect of financial risk management. Farah, Ijaz and Naqvi (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 financial literature has not yet come to a definitive conclusion as to what firm factors determine their performance during any state of the economy (Rumelt, 1991). Studies by Hawawini, Subramanian, and Verdin (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 operating performance and are the main drivers for competitive advantage, which is crucial for surviving economic downturns.

The Retirement Benefits Industry plays a major role in the world economy. Studies by Heijdra, Ligthart and Jency (2006), Watson (2007), and Yermo (2008) highlighted their significance by showing that they contribute immensely to the growth and development of world economies through the provision of retirement benefits, growth of financial services as well as the development of capital markets. The OECD, for instance, established in 2017 that assets in Retirement Benefits Schemes amounted to 50.7% of GDP in the OECD countries and 19.7% of total GDP in the non-OECD countries. In Kenya, the Retirement Benefits Assets as a percentage of GDP stood at 14.4% (RBA, 2022).

In recent years, corporate governance has attracted much attention following increased cases of high-profile scandals and the catastrophic failures and losses of giant companies worldwide. Kaur and Suveera (2009) report that such scandals included the Bank of Credit and Commerce International (BCCI) of 1991 and the Maxwell Pension cases in the UK; the Enron and WorldCom cases in the US; as well as the Satyam, Reebok and the Sahara cases in India. The 2007-08 collapse of the subprime mortgage markets and regional market crisis, particularly the 1997 Asian financial crisis and the 2008 Global financial crisis, further highlighted the significance of good governance (Nam and Nam, 2004; Antolín and Stewart, 2009). The authors opine that the cases involved unethical conduct, abuse of corporate power and alleged criminal activity by key managerial personnel.

Subsequently, a number of pension funds worldwide declined in their financial performance, as indicated by major reductions in pension fund assets (OECD, 2008). Besley and Prat (2005) argue that the later development exacerbated the threat of pension funds failing to provide retirement income. Similarly, various challenges were witnessed

in Kenya in the past two decades that included operational malpractices, misappropriation of scheme funds, imprudent asset management, low coverage, unfunded liabilities, lack of transparency, and weak enforcement of pension laws, worsened by the deteriorating economy.

It is noted that the impact of corporate governance, investment strategy, and macroeconomic factors on the financial performance of pension funds is widely studied in developed economies, but there is a clear gap in developing countries like Kenya, necessitating further research into 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 Corporate Governance

Carmichael and Palacios (2003) defined corporate governance as systems and processes by which organizations attain their undertakings with the goal of mitigating conflicts among their stakeholders and getting the best out of their well-being. 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) are of the view that a major component of improving the performance of pension funds is the application of corporate governance (CG) principles, which influence the development and functioning of capital markets and influence resource allocation. It impacts upon the behaviour and performance of firms, innovative activity, entrepreneurship, and the development of an active small and medium enterprises (SME) sector. In an era of increasing capital mobility and globalization, the authors argue that CG has become a crucial factor impacting the industrial competitiveness of OECD countries. Besides, they note that it reveals itself in the firm's better financial performance.

Similarly, Shamim, Kumar, and Soni (2014) argue that improved integrity and efficiency of firms and capital markets are associated with good CG. The authors observe that poor CG deteriorates the company's potential, leading to malpractices and declined performance. Moreover, they discern that firms implementing best CG practices raise capital easily and are more profitable and competitive as they reduce many risks that arise from daily operations. Bushee, Carter and Gerakos (2007), as well as Leuz, Lins and Wamock (2007), support the assertion that investors exhibit a preference for well-governed firms.

Another scholar, Chow (2005), argues that a firm's governance practices determine 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, observe that no globally accepted governance principles that safeguard and promote shareholders' assets exist, meaning that their use varies across countries. Some vital components of good corporate governance, as identified by Bhasin (2013), are accountability, transparency, rule of law, inclusivity, and disclosure.

Palacios (2001) is of the view that governance is crucial to pension schemes, as indicated by the increase in reported high-profile cases of governance failure and misconduct following an upsurge in regional market crisis and large corporate failures such as the Asian Financial crisis of 1997, the collapse of both the Enron Corporation in the US and the Swissfirst affair of Pensionskassen in Switzerland. The question that arises then is where the regulators were. It is a fair question after the failure of several ostensibly supervised financial institutions and companies as policymakers once again set out to make the financial system less crisis-prone. Even so, there is an equally pressing question to answer: where were the directors? The collapse of these institutions suggests serious lapses of oversight not just from regulators but at the board level.

The Agency theory of Jensen and Meckling (1976) looks at the management of companies as agents whose interests 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 the value of pension assets can be reduced by governance practices that help 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 decreased risk, while David and Impavido (2003) opine that the theory encourages agents to act in the interest of shareholders as well as reduce them from acting inaptly.

Policymakers in a number of countries endeavored to mitigate flaws in governance through a number of measures that included legal and regulatory instruments besides voluntary codes and principles such as the Sarbanes Oxley Act (SOX) of 2002 in the US, the Cadbury Code in the UK, Cromme Code in Germany as well as the Code of CG in Pakistan. In Kenya, the Retirement Benefit Authority (RBA) Act Cap 197 of 1997 was enacted in addition to the Mwongozo Code of Governance for State Corporations (Kamran & Shah, 2014).

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

1.2 Investment Strategy

Investment strategy is defined by Bilaus (2010) as a set of guidelines that help investors choose assets in a portfolio based on investment objectives and trade-offs between risk and return. Stanko (2002) explains it as a mixture of investment assets made by pension

funds. Tonks (2006) observes that investment strategy plays a crucial role in portfolio management, which forms part of the huge global investment management industry where pension assets are a significant part.

Obermann (2005) observes that the investment process of pension funds faces many challenges, including inflation, market, credit, and solvency risks, as well as governance, agency, legal and regulatory risks that all lead to poor pension performance. This is compounded by the fact that pension schemes are long-term saving vehicles in which the savings cannot be accessed until retirement, which is in contrast with other saving schemes. Managing these risks is therefore critical for ensuring their sustainability; hence, it is critical that the investment function is managed responsibly. Tan and Luo (2021) argue that investment decisions are key to the financial performance of pension funds. In agreement, Liu and Zhang (2020) propose 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); Al Daas, Abdullah, and Suleiman (2020); Pramartha, Ratnadi, Yasa, and Suaryana (2020); and Susanti, Azhar, and Aldrin (2019) support the notion that investment decisions influence firm value.

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

Markowitz's (1952) Modern Portfolio Theory (MPT), the Efficient Frontier, is the main investment theory that allows investors to assemble assets of a portfolio that maximizes expected return for a given level of risk. MPT, a portfolio management tool, is based on the mean-variance efficiency for asset 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 to minimize idiosyncratic risk by holding assets that are not perfectly positively correlated. It is based on the principle that owning a portfolio of assets from different classes is less risky than holding a portfolio of similar assets.

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

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) are of the view that it is possible to outperform the S&P 500. Sharpe (1991) and Ippolito and Turner (1987), nonetheless, found that actively managed funds on average, underperform the Index, net the costs. Similarly, Bogle (2002) shows that the Index performs better than the 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. Thus, the mixed results create a need for further research. Locally, empirical literature is limited on the effects of investment strategy on pension performance.

To improve portfolio management, the OECD developed guiding principles on Pension Fund Asset Management that include setting pension fund objectives, prudential principles, prudent person standards, investment policy, portfolio limits, and valuation criteria of pension assets (OECD, 2006).

2. Macroeconomic Factors

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

Scholars such as Khaparde (2014) and Kahraman (2011) are of the view that financial decisions such as investment, financing, working capital or dividend choices whose goal is wealth maximization differ from one company to the other and are influenced by the prevailing macroeconomic factors. In concurrence, Kahraman (2011) and 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 the financial position of firms and macroeconomic variables such as changes in GDP, interest, inflation and exchange rates, among others. The theory offers a multifactor pricing model for securities by proposing that the return of securities is a linear function of these factors.

A number of scholars in developed countries and EME, including Fama (1990); Clare and Thomas (1994); Mookerjee and Yu (1997); Kwon and Shin (1999); Humpe and Macmillian (2007); and Pilinkus (2010) examined the impact real GDP, industrial production, lagged inflation and interest rate on stock performance. Their results indicated that these factors had a significant impact on portfolio performance. Studies in a developing country by Olweny and Omondi (2011) and Ochieng and Oriwo (2012) investigating the relationship between firm performance and the Nairobi Securities

Exchange (NSE) Index revealed that a significant link between the two variables exist. Chelangat (2014) observed that these factors are closely monitored by businesses, governments and pension funds.

2.1 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)). According to the authors, it shows how well a firm utilizes its resources to maximize the shareholders' wealth and profitability. Other scholars refer to it as the degree to which fiscal objectives have been met. Walker and Iglesias (2007) assert that evaluation of portfolio performance is undertaken to determine whether portfolio managers add value compared to passive investment strategies that are indicated by well-diversified benchmarks. This, however, is negated by Fama's (1991) Efficient Markets Hypothesis, which suggests that it is impossible to beat the market consistently on a risk-adjusted basis as asset prices fully reflect all available information. The measurement, nonetheless, remains a key aspect of financial risk management.

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

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

Accounting-based performance metrics are also used to evaluate a firm's financial performance. They are a type of return on investments, such as Return on Equity (ROE) and Return on Assets (ROA). Return on Assets is a ratio that shows how well a company is performing by comparing the profit it is generating to the capital it has invested in assets. It thus measures the profitability of a business relative to its total assets. In contrast, return on equity is a measure of a company's profitability that reveals how much profit a company generates from the money that shareholders invest 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 are also market-based measures such as Tobin Q (Daily & Dalton, 1993; Hermalin & Weisbach, 1991; Lam & Lee, 2008).

Pension funds' performance can be examined using risk-adjusted performance measures comprising Sharpe's, Sortino's and Treynor's ratios, which quantify the ability of pension fund managers to deliver an active management risk premium with respect to benchmarks. The ratios assess fund returns but incorporate measures of risk. Sharpe's ratio shows how well the return on an investment compensates for the risk investors take. The higher the Sharpe ratio, the better it compensates for risk. The grading threshold of the ratios is provided as: i) <1 – Not good; ii) 1-1.99 – OK; iii) 2-2.99 – Really good; and iv) >3 –Exceptional (Sharpe, 1966), where

Return on Assets/Portfolio = Net Income ÷ Average Total Assets

Sharpe's Ratio = <u>Return of a Portfolio (RP) – Risk Free Rate (RF)</u>
Standard Deviation of Portfolio's Excess Return (SP)

$$S = \left(\frac{R_p - R_f}{\sigma_p} \right)$$

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

1.2 Pension Schemes in Kenya

A Pension scheme is a long-term saving plan that is a legally binding contract with the 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 benefit or in similar circumstances (OECD, 2002). Schemes are classified into various categories. The OECD, using the multi-pillar approach, identified three types: the first pillar, publicly managed pension schemes; the second pillar and the third pillar. The first pillar comprises defined benefits and Pay-as-You-Go schemes, which are financed based on a payroll tax. The second pillar includes privately managed pension schemes that are provided as part of an employment contract, while the third pillar encompasses personal pension plans that form savings 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 in plans being either public or private, occupational or personal, Defined Benefit (DB) or Defined Contribution (DC), funded or unfunded. In Kenya, the classification of pension schemes is based on the multi-pillar approach of Pillars I, II, and III. Pillar I comprise the Public Service Pension Scheme and the National Social Security Fund (NSSF). Pillar II comprises Occupational pension schemes, while Pillar III includes Individual retirement benefit plans. In 2020, there were a total of 1,268 occupational pension plans, 41 individual pension schemes and 32

Umbrella Retirement Benefits schemes in Kenya. The later plans comprised pooled companies that found it was not financially feasible to create their own pension schemes.

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

3. Research Problem

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

Studies by Opler and Titman (1994) suggest that firm-specific or internal factors such as corporate governance and investment strategy seem to be the significant determinants of 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) and Bhagat and Black (2002) found mixed and inconclusive results on the association between corporate governance and pension fund financial performance. Disharmony of the empirical results on the subject makes the issue current, necessitating further research to enable a better understanding of the association among the study variables.

The importance of corporate governance in the pension industry has come to light of late following both regional and international market crises and large corporate failures. Kuepper (2019), for instance reports that the Asian Financial Crisis of the "Tiger economies" of 1997 resulted in their capital markets and currencies losing 70% of their values. 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? This is the question that Policymakers are making as they set out, to make the financial system less crisis-prone. Even so, there is an equally pressing question to answer: where were the directors? The collapse of these institutions, suggests serious lapses of oversight not just from regulators but at the board level.

In Kenya, a number of challenges affected the pension industry. They included lack of transparency, operational malpractices, and misappropriation of scheme funds, such as the loss of KS 295 million held in the trust account of the Kenya Medical Research Institute pension fund (Naftali, 2005) as well as the loss of the KS 700 million through the illegal purchase of assets by Kenya Ports Authority (KPA) Retirement Benefits Scheme. The situation worsened because of the deteriorating performance of the economy. Despite the enactment of the RBA Act Cap 197 in 1997, which was to provide oversight on the growth and development of the pension industry in the country, pension challenges persisted, with a number of them underperforming due to accounting scandals and poor governance.

Other studies have shown that there are other factors determining pension performance, such as investment strategies and macroeconomic factors. The issue of application of investment strategies to manage risks was highlighted by the recent Global economic turmoil that resulted in declined pension fund performance. Ross (1976) and Brinson, Singer and Beebower (1991) are of the view that macroeconomic factors play a major role in pension financial performance, hence a critical consideration by institutional investors when it comes to assets under management.

In Kenya, a limited number of studies have been carried out on the subject, resulting in inadequate empirical evidence. They were based on different methodologies, and most were focused on other sectors of the economy. Mutegi (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), and Osoro (2015) investigated and established that 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. The study, therefore, seeks to investigate factors influencing pension performance in Kenya.

4. Research Objectives

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

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

5. Literature Review

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

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

5.2.1 The Agency Theory
The Agency theory (AT) explains the relationship between the principal who employs another party and the agent to work on its behalf in an organisation (Jensen & Meckling, 1976). The authors argue that the agent may not act in the principal's best interests due to the separation of ownership and control. Demsetz and Lehn (1985) state that this necessitates the protection of shareholders' interests, minimising agency costs and aligning principal-agent interests. The AT states that agents and principals, who are considered rational actors, pursue the objective of maximising their individual utility with the least possible expenditure. Thus, given the alternative options, either party will select the option that surges his or her individual utility. The principals will, nonetheless, find it challenging to know ex-ante which agents will self-aggrandise. Williamson (1985), therefore, found it prudent for them to limit potential losses to their utility.

Jensen and Meckling (1976) further note that companies are considered as a network of contracts among various stakeholders such as shareholders or equity holders, bondholders, employees, and society at large. Consequently, payments of claims of different classes of stakeholders vary. The authors affirm that potential conflicts among the stakeholders and the principal-agent problem are likely to occur if there is a lack of alignment of the interests of different stakeholders with those of the agents in the firm who control major decisions. They discern that each class of stakeholders pursues its own interest, which may be at the expense of other stakeholders.

Classification of agency problems such as disagreements could be between stockholders (principals) and management (agent) (managerial agency); between stockholders (agents) and bondholders (debt agency); between the private sector (agent) and the public sector (social agency); and between the agents of the public sector (regulators) and the rest of the society or taxpayers (political agency) is done based on

the conflicts between different parties of the organisation (Jensen & Meckling, 1976, Barnea, Haugen & Senbet, 1985, and John & Senbet, 1996).

John and Senbet (1998) discern that the consequence of agency problems is to diminish the efficient operations of enterprises, leading to the adoption of ineffective investment strategies that are detrimental to economic growth and development. Thus, the authors argue that an economic environment that enhances the application of good corporate governance (CG) practices as well as the execution of quality contracts among parties with diverse interests, promotes efficient allocation of resources and, ultimately, economic development. Furthermore, they discern that crucial to CG mechanisms in market economies is the board of directors that shareholders use to exercise control on top management in combination with external markets for corporate control as well as institutional and concentrated shareholdings.

Similarly, Maher and Andersson (1999) avow that the main purpose of the AT is to limit agency costs incurred by the principal attained by harmonising the interests of the managers and the shareholders to maximize firm value. In agreement, agency theorists such as Demsetz and Lehn (1985) prescribe several governance mechanisms to protect shareholders' interests, minimise agency costs and ensure principal-agents interest alignment that includes alternative executive compensation schemes and governance structures, as well as the imposition of internal penalties to keep the self-serving agent's behaviour in check. The authors argue that financial incentives reward and punish management with the purpose of aligning their interests with those of the board. The board of directors, on the other hand, execute audits and performance evaluations to keep potential self-serving managers in check. Moreover, non-executive board members or independent directors of the board serve to ensure effective oversight of the management. They help share a neutral opinion as they are not attached to the existing management.

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

The Agency theory has, however, encountered several criticisms. Donaldson (1990) and Aguilera, Filatotchev, Gospel, and Jackson (2008) identified the theory's narrow nature that makes comparison and explanation of governance practices across different institutional and national contexts 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 a failure to explain the complexity of human nature due to the theory's assumption that all motivations are self-serving. The theory, nevertheless, is justified for the research as it provides a direct link between governance indicators and retirement benefit schemes' performance and explains the relation between parties' interests. In the event of disagreements, the author argues that

the interests can be brought into alignment through monitoring and a well-planned compensation system. The research, therefore, investigates the impact of CG indicators on the financial performance of retirement benefit schemes in Kenya.

5.2.2 Stakeholder Theory

A growing number of scholars and practitioners, such as Freeman, Harrison, Wicks, Parmar and De Colle (2010), opine that the "Stakeholder Theory" (SHT) as an evolving concept attempts to explain how value is created and traded, the problem of connecting ethics and capitalism, and the problem of helping managers resolve the first two problems. Freeman (1984) hypothesised that the theory is an organizational management theory that accounts for multiple players impacted by business entities. It expounds on the interconnected relations between a business and its stakeholders and puts attention to a company's values, ethics, and goals while underscoring social responsibility over profit. The author avows that by managing strong stakeholder relationships, a business can improve its performance and longevity.

Preston and Donaldson (1995), as well as Post, Preston and Sachs (2002), discern that the stakeholders comprise individuals and constituencies with different interests and values that contribute to the wealth creation of the firm and are its potential beneficiaries and or its risk bearers. Such include shareholders, employees, customers, investors, communities, suppliers, unions, trade associations, political groups, and competitors, among others, who have a stake in the organization. The authors affirm that firms' performance has a correlation with other stakeholders who have an interest in the firm, apart from the shareholders. Thus, a wider constituency of interests impacts firm value.

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

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

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 the genuine claims of all stakeholders. In contrast, they state that instrumental implications mean the theory has a profit/wealth-creating responsibility to maximize organizational wealth. This implies that stakeholders need to be involved in the corporate decision-making process to enhance efficiency and attain superior firm performance (Kelly & Parkinson, 1998). Similarly, Williamson (1985) argues that the theory is predominantly about how governance practices support the interests of both the shareholders and other stakeholders. Milton's (1990) shareholder theory, however, sharply contrasts with the SHT. The former advocates the view that a company's sole motivation is to advance its shareholders' interests, which are primarily concerned with monetary growth. In essence, the theory is about the "making more profit at all costs" approach to business.

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

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

5.2.3 Modern Portfolio Theory

The Modern Portfolio Theory (MPT) of Markowitz (1952) provides a framework on which one can make sensible asset management and apportionment decisions. The theory, also referred to as the efficient frontier, is an investment theory that proposes two main concepts:

a) all investors pursue to attain maximum returns for any level of risk;

b) risk reduction can be achieved 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 risks, those associated with each particular stock. The later risks are company-specific events that are lowered by diversification.

Lately, the theory has, nonetheless, been challenged by a number of scholars. Haugen and Heins (1975) as well as Murphy (1977), assessed the risk-reward relationship and established that it was far weaker than expected. Besides, behavioural economists established that not all investors act rationally (Gregory, 2002). Moreover, the MPT makes many incorrect assumptions about investors and markets. They include the use of normal distributions to model returns as well as the neglect of taxes and transaction fees.

One of the key assumptions of the MPT is the Efficient Market Hypothesis (EMH), which avows that financial markets are "*informationally efficient*", Fama (1970). Thus, asset prices reflect all available information, implying that one cannot consistently achieve returns in excess of average market returns on a risk-adjusted basis at the time the investment is made. The author identifies three types of the EMH: "weak", "semi-strong", and "strong". The weak form states that prices of traded assets such as stocks, bonds, or property reflect all past publicly available information. The semi-strong form avers that prices reflect all publicly available information and that prices change to reflect new public information. The strong form, on the other hand, affirms that prices instantly reflect even hidden or "insider" information. Andrei (2000) observes that there is evidence for and against the weak and semi-strong forms. Likewise, there is stronger evidence against the strong form.

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

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

Scholars such as Iyiola, Munirat and Nwufo (2012) argue that the MPT does not really model the market. Measures used by the MPT are based on forecasted values, which are mathematical statements about the future. This, however, is not the case, as investors need to make predictions based on current data of asset return and volatility

for these values in the equations. Historical data fails to take account of new situations which did not exist when the historical data were generated. The authors acknowledge that investors use historical data in the MPT and model risk on the basis of the likelihood of losses but say nothing about why those losses might occur. The risk measurements used are probabilistic in nature, not structurally differing substantially from many engineering approaches to risk management.

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

Several scholars have critiqued the MPT. They observe that the theory does not take cognisance of its own effect on asset prices. Although diversification reduces non-systematic risk, it does increase systematic risk, Chandra (2003). The author argues that diversification is done primarily to reduce a portfolio's non-systematic risk, forcing portfolio managers to invest in assets without evaluating their fundamentals. This results in increased demand, hence the price of assets that, when analysed separately, would be of little fundamental value. This leads to the whole portfolio becoming more expensive and the likelihood of a loss.

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

5.2.4 The Arbitrage Pricing Theory

The Arbitrage Pricing Theory (APT), a multi-factor pricing model for securities developed by Ross (1976) proposes that there is a link between the expected return of a security and a set of systematic risk factors. According to the author, diversification of portfolios reduces risks but not completely, as there are economic forces that still influence stock returns. Chen (1986), Roll and Ross (1980), Cheng (1996), as well as Günsel and Çukur (2007) researched the model and showed that stock return was influenced by several independent variables, including GDP, changes in inflation and interest rates.

Nevertheless, various scholars have identified a number of weaknesses of the theory with the main one being its generality. Huberman (2005) avows that the theory fails to explain the theoretical reasons for selecting identified systemic factors as well as their number. Roll (1977) points out that it is difficult to test the theory as the precise configuration of the market portfolio is not known. Methodologies used in the

assessment of the model also pose further challenges. Despite these flaws, the applicability of the APT in establishing asset returns may still be valid. The theory was thus used in the study to investigate the association between pension financial performance, corporate governance, investment strategy and macroeconomic factors. The critical question was: can the theory be applied to non-systemic risk factors as it is applicable to systemic risks?

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

Where:

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

α_i = the stock-specific effect for stock i,

$F_j's$ (j = 1, 2, k) = macroeconomic factors (or factor scores),

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

e = the unsystematic return components of the stocks.

6. Empirical Review

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

6.1 Corporate Governance and Firm Performance

Existing empirical literature on CG is mainly from US and OECD firms (Maher & Andersson, 2000). Research findings showed that the financial performance of firms was influenced by the level of shareholder rights and the competence of existing court systems (Gompers, Ishii, and Metrick, 2001; La Porta, Lopez-de Silanes, and Vishny, 2001; Lombardo & Pagamo, 1998). In particular, they established that enhanced shareholders' rights resulted in higher financial performance of firms. Besley and Prat (2003), Mitchell and Yang (2005), and Manuel and Andreas (2008) found a positive relationship between good CG and pension performance. Wagner, Stimpert and Fubara (1998) found that the probability of firms going under declined with boards controlled by outside directors. Zahra and Pearce (1989) argue that outsiders tend to be objective, unbiased, and independent.

Mixed and sometimes inconclusive results on the relationship between CG and firm performance were also found by scholars such as Daines and Klausner, 2001 (examined takeover defenses); Larcker, Richardson and Tuna (2007) (examined board and ownership variables); and Coles, Daniel and Naveen (2008) (considered board size). Clarke (2009) observed that CG systems failed to prevent financial crises and corporate collapses across different economies. Heracleous (2001) reports that researchers failed to

find any convincing connection between the best practices in CG and organizational performance.

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

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

Locally, Ongore and Kobonyo (2011) assessed the relationship between the financial performance of NSE-listed firms and governance. They established significant relationships between ownership concentration and the profitability of firms. Miring'u (2011) showed that the performance of board members significantly influenced the financial performance of state firms. Lishenga (2012) assessed the effects of board meetings for CG on firm performance and established that improved regularity of board meetings enhanced firm performance.

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

Similarly, Aluoch, Mwangi, Kaijage and Ogutu (2020) examined the relationship between board structure and performance of firms listed at the Nairobi Securities Exchange, anchoring the study on agency theory, resource dependency theory,

transaction cost theory, political theory and a census approach. Data was extracted from annual reports of 60 listed firms at the NSE between 2002 and 2016. They evaluated the relationship between the variables using longitudinal descriptive research in addition to the panel data regression analysis that used the random effects model.

They established that gender diversity and occupational expertise had a significant effect on Return on Assets, while board independence and board age had a significant effect on Tobin's Q of listed firms in Kenya. On the contrary, board size had an insignificant effect on both Return on Assets and Tobin's Q. The overall effect of board structure on Returns on Assets and Tobin's Q was significant. The authors concluded that various board structure mechanisms, except board size, have a significant effect on the performance of listed firms in Kenya, and the overall board structure had a significant effect on the performance of listed firms. The study recommended that management should incorporate board structure mechanisms to enhance the performance of firms, and regulatory authorities should review the current board structure variables to make them more relevant to improve the performance of listed firms in Kenya.

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

A limited number of studies, nonetheless, exist on the effect of CG on pension funding. Mutegi (2014) established that CG structures of occupational retirement benefit schemes in Kenya had a correlation with the financial performance of pension plans. Njuguna (2011) found that good CG practices had a positive correlation with pension regulations, leadership and growth of schemes. None of these studies examined the influence of other factors on the above relationship, necessitating further research.

6.2 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, CG indirectly affects the financial performance of the fund's investments. 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 the financial performance of pension plans. The relationship, however, is only slight in the category of assets selected.

Ambachtsheer, Capelle and Scheibelhut (1998) evaluated the impact of quality of governance structures on the 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 the United States. Their findings showed that the relationship was positive. In Poland, Jackowicz and Kowalewski (2012) showed that there is a positive correlation between the number of non-executive directors on trustee boards, the level of education, and the market values of the funds. Similarly, Eccles and Viviers (2011) conducted an empirical study of two matched sets of firms covering an 18-year period. They found that, over the long-term, corporations that voluntarily adopted aggressive investment strategy many years ago significantly outperformed those that had adopted a conservative investment strategy, both in terms of stock market and accounting performance.

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

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

6.3 Corporate Governance, Macroeconomic Factors and Pension Performance

Most of the evidence available in studies examining the sources of return variation is indirect and not necessarily linked to pension funds but to securities that pension funds invest in. Research in developed countries and EME by scholars such as Chen (1991), Black, Fraser and MacDonald (1997), Humpe and Macmillian (2007), Mukherjee and Yu (1997), as well as Kwon and Shin (1999), showed that real GNP, industrial production, lagged inflation and interest rate influenced stock performance. Likewise, Muhammad

and Rasheed (2002) evaluated the influence of interest rates on stock return for firms in Pakistan, India, Bangladesh and Sri Lanka using monthly data from 1994 to 2000. Their findings indicated a positive link between the two variables for firms in Bangladesh and Sri Lanka only. No relationship was, however, found for companies in India and Pakistan.

In another study involving the Bombay Stock Exchange (BSE) Sensex, Singh (2010) they have assessed the impact of exchange rates, industrial production, and wholesale price Index on stock return from 1994/95 to 2008/09. The results found were mixed. The three factors had a positive link with stock return. However, when the Granger causality test was used to evaluate the findings, the index of industrial production was the only factor having a bilateral causal relationship with BSE Sensex. The author concluded that in the Indian Capital Market, asset 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. She concluded that in the Kenyan Capital Market, asset prices do not fully reflect existing information. There is, therefore, a need to monitor the macroeconomic environment since these changes affect security returns.

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

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

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

Empirical studies focusing on the effect of multiple factors on the association between CG and pension fund financial performance are limited both in developed and developing countries. This is a research area that needs attention. Previous studies on the

relationship between CG and pension performance attribute the mixed findings of inconclusiveness or contradictions to the use of two variables at a time (Uwuigbe, 2012). The study will, therefore, try to address this gap by using a multifactor model to investigate the joint effect of governance, investment strategy and macroeconomic factors on pension performance.

6.5 Research Gaps

Reviewed empirical literature identifies several research gaps. A limited number of local studies examined the impact of multiple factors, including governance practices, macroeconomic variables and investment strategy, on the financial performance of pension funds. Moreover, there was a lack of unanimity on the effect of CG practices on pension or firm performance in developed, developing and emerging economies. The findings, too were, in a number of cases, inconclusive. Furthermore, most studies did not take into consideration the influence of moderating and mediating factors on the relationship between governance and pension performance. The use of a multi-equation approach to investigate the impact of multiple factors on pension performance was not also exploited.

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

6.6 Value of the Study

The study outcomes will provide empirical evidence on both quantitative and descriptive statistics on the association between CG, investment strategy, systemic factors and financial position of pension funds. The findings will link these factors and pension performance in an integrated manner and extend the discussion on CG and pension performance. In addition, it will provide evidence from a developing country's perspective on the application of the Agency, Stakeholder, MPT and the Arbitrage Pricing theory on pension schemes. The results will be expected to refine and contribute to a body of finance theory. Apart from providing knowledge on the relationship between research variables, the study will help practitioners, policymakers, trustees, and plan members make sound and effective strategic decisions to achieve superior pension performance. CG and risk management were at the heart of the debate on the 2007-2008 financial meltdown and the large corporate failures. The study, therefore, will help identify drivers of effective CG that will help improve the financial position of pension schemes. The

findings will be relevant not only to the researchers but also to the regulators and market participants. The regulators, RBA, CMA, and the NSE, can use them to guide the regulation process when protecting investors in portfolio selection and as a reference for future policies on the effectiveness of CG in increasing shareholder value. The study findings will also be used to examine critical areas of CG and to formulate necessary policies as guiding frameworks for CG in pension schemes in Kenya.

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

Hess and Impavido (2003) opine that knowledge of the CG theory supports the adoption of good CG practices to reduce agency glitches in pension schemes. The study findings will help unearth factors that are key to the investment process that policymakers must pay attention to, broaden knowledge on CG and enable policymakers to adopt the hypothesized drivers of the effectiveness of CG. This will assist investment managers, plan members, and beneficiaries in making sound and informed investment decisions in asset allocation, portfolio construction, and risk management. Finally, the study will bring to light the importance of the sector to key stakeholders.

6.7 Conceptual Framework

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

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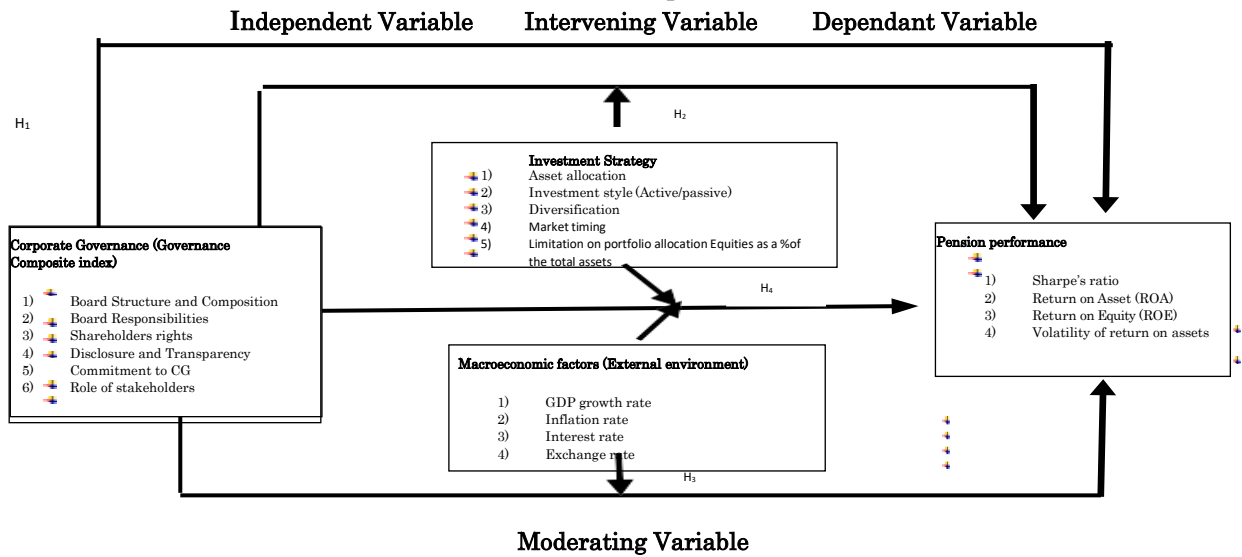
Source: Author's primary analysis, 2023.

Figure 2.1 above shows the relationship among the study variables.

7. Hypotheses

The study tested the following hypotheses:

H_1: CG has a significant relationship with the financial performance of pension schemes.

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

H_3: Macroeconomic variables have a significant moderating effect on the relationship between governance and the fiscal position of occupational pension plans.

H_4: The joint effect of CG, macroeconomic variables and investment strategy on pension performance is significant.

8. Research Methodology

8.1 Introduction

The section comprises a review of the research procedure, including the research design, population and sample of the study, data gathering, tests of validity and reliability, and analysis of data.

8.2 Research Design

Research design is the overall strategy one chooses to integrate the different components of the study in a coherent and logical way to address the research problem (Trochim, 2006). Zikmund (2003) referred to it as the main plan for the collection, measurement,

and analysis of data to address a research problem. Creswell (2008) identifies three research designs: qualitative, quantitative, or mixed methods.

The quantitative method, which is based on the scientific method, relies on statistical procedures for data analysis and implies using numerical data. The data is numbers and statistics. Its advantage is that one can collect and analyse much more information and make general statements about what is likely to be true overall. In addition, the results are usually generalizable to larger populations. Its key shortcoming is lack of depth, such as reasons why, context, emotions or feelings. Besides, it requires mathematical and/or statistical knowledge to be able to analyse the data effectively. Consequently, quantitative methods rely on experiments and surveys to collect measurable data such that statistical processes can be applied (Creswell, 2003).

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

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

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

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

Quantitative research designs assess the level of association between study variables using statistical analysis techniques (Creswell, 2013). They are classified as descriptive, correlational, quasi-experimental, and experimental research designs that observe and describe the behaviour of a subject without influencing it in any way. Descriptive research describes the characteristics of the population or phenomenon that is being studied, focusing more on the "what" of the research subject rather than the "why" aspect. It describes a subject population's critical variables that will provide answers to the questions of who, what, when, where, and how related with a specific study problem (Cooper & Schindler, 2003). The design involves three methods of data collection: observational, case study, and survey research. This design is used when one wants to define respondent characteristics, measure data trends, conduct comparisons and validate existing conditions.

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

8.3 Population of the Study

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

8.4 Sample Design

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

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

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. The size of the sample for the study was 61 estimated:

$$n = Z^2 * N * \partial_P / \{(N - 1) * \mathcal{e}^2 + (Z^2 * \partial^2_P)\}$$
$$n = (1.96^2 * 73 * 0.5^2) / (73\text{-}1) * 0.05^2 + (1.96^2 * 0.5^2)\} = 67.2768 / 1.1016$$
$$n = 61.0718954$$

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

8.5 Data Collection

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

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

8.6 Data Analysis

The unit of analysis was individual pension funds. Data was analysed in two stages. First, there was a descriptive analysis that entailed computations of frequency distributions, mean scores, standard deviations, and coefficients of variation of the pension fund /assets

value, as well as the volatility of gross real return of the pension funds. Secondly, the analysis involved testing for relationships between and among variables to establish their nature and magnitude. This involved multiple regression analyses, Pearson's product moment and analysis of variance (Baron & Kenny, 1986) for this model:

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

Where,
CG = Corporate governance;
IS = Investment strategy;
Macro = Macroeconomic factors;
e= error term.

Below are the regression models and the hypotheses tested.

8.7 Corporate Governance (CG) and Pension Performance

The first objective was to investigate the impact of CG practices on the pension performance of pension schemes registered by the RBA by 31st December 2020. The independent variable CG was disaggregated as Board Structure and Composition (BSC), Management Practices (MP), Transparency and Disclosure (TD) and Shareholders' Rights (SR). The dependent variable was proxied by the variable combined ROI of pension funds.

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

The regression model was:

Pension Financial Performance (Combined ROI of Pension Funds) = a + b_1GG + e
Combined ROI of Pension Funds = a + b_1 BSC + b_2 MP + b_3TD + b_4 SR + e

Where:
Combined ROI of pension funds = Return on investment,
BSC = Board structure & composition,
MP = Management practices,
TD = Transparency and disclosure,
SR = Shareholders' right,
e = error term.

8.8 Corporate Governance, Investment Strategy (IS) and Pension Performance

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

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

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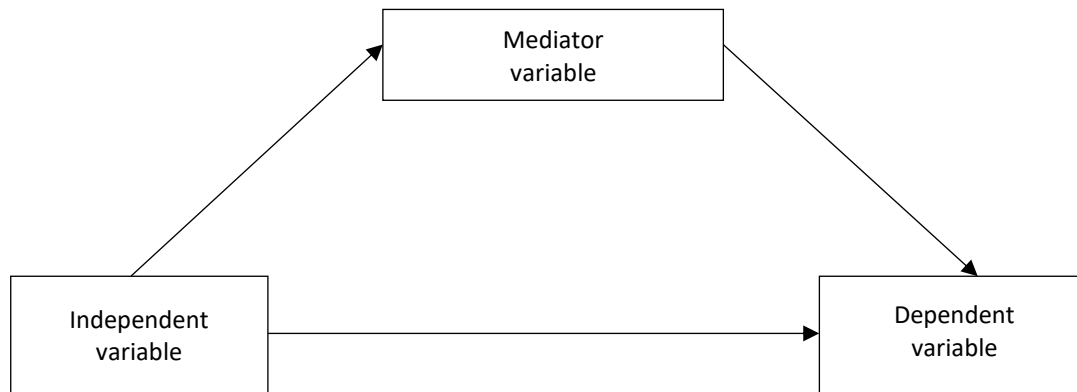
Source: Author's primary analysis, 2023.

The study used the Baron and Kenny (1986) method, a statistical analysis strategy to test the mediation hypothesis, as indicated in Figure 3.1. The authors state that mediation analysis quantifies the extent to which a variable participates in the transmittance of change from a cause to its effect. It is inherently a causal notion; hence, it cannot be defined in statistical terms. In the intervening variable model of the study, the independent variable CG is postulated to exert an effect on the outcome variable Combined ROI of pension funds through the intervening variable IS, the mediator (Hayes A. F., 2009).

Path analysis/Stepwise regression analysis, a statistical method of testing cause/effect relationships of Kenny and Baron (1986), was used to investigate the intervening effect of IS on the relationship between corporate governance and pension performance. The following model involving four steps was used in the intervention analysis.

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

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

Steps 1-3 establish whether zero order relationship among the variables exists. If one or more of these relations are not significant, then mediation is not possible. Nevertheless, if significant, proceed to step 4. Full mediation is supported if CG is no longer significant when IS/IC is controlled. Partial mediation is supported if both CG and IS significantly predict pension performance. R^2 assesses how much change in financial performance is due to CG and IS. If R2 is > 0.7, there is a positive relationship and below 0.5 there is a weak relationship.

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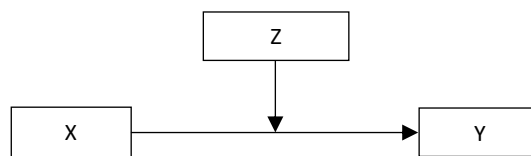
The third objective of the study was to establish the moderating effect of Macroeconomic variables on the relationship between CG practices (BSC, MP, TD and SR) and pension fund financial performance (combined ROI of pension funds), as indicated by Figure 3.2.

H3: Macroeconomic variables have a significant moderating effect on the relationship between CG practices (BSC, MP, TD and SR) and pension fund financial performance (combined ROI of pension funds).

Moderation analysis was done by adding one or multiple interaction terms in a regression analysis.

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

Figure 3.2: Moderation path diagram

Source: Author's primary analysis, 2023.

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

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

H4: The joint effect of CG, investment strategy, and macroeconomic factors is greater than the sum total of the individual effects of the independent variables on pension performance.

The investigation was done using the following regression equation:

$$Y = a_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_n X_n + \varepsilon$$
Combined ROI of Pension Funds $= a_0 + \beta_1 BSC + \beta_2 MP + \beta_3 TD + \beta_4 SR + \beta_5 IS + M_6 EV6 + \varepsilon$

9. Hypotheses Testing and Discussion of the Findings

9.1 Introduction

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

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

9.2 The Relationship between Corporate Governance and the Combined Return on Investment (ROI) of Pension Funds

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

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

Table 4.1: Model Summary of the Effect of Corporate
Governance on the Combined ROI of Pension Funds

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.602a	.362	.271	43.63799	.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 the combined ROI of pension funds was .362 with an adjusted R^2 of .271, indicating a weak size effect of the model (Table 4.1). This implies that 36.2% of the variation in the combined ROI of pension funds is accounted for by the regression, a linear combination of the predictor variables Board structure and composition, Board Responsibilities, Shareholder's Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders, Stakeholders interests in board decisions (CG indicators).

Table 4.2: ANOVAa of the Relationship between Corporate
Governance and the Combined ROI of Pension Funds

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53017.341	7	7573.906	3.977	.002b
	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						

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

The study results in the coefficient Table 4.3 below, however, indicate that only the Role of stakeholders (RS) (t = 2.143, p < .05) shows a statistically significant positive effect on the combined ROI of pension funds. Board structure and composition (t = .765, p = .448), Disclosure and transparency (t = 1.073, p = .288), and Stakeholders interests in board decisions (t = 1.252, p = .217), had a positive but statistically insignificant effect on the combined ROI of pension funds. In contrast, Board Responsibilities (t = -1.203, p = .235), Shareholder′s Rights (t = -.583, p = .562), and Commitment to Corporate governance (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

Table 4.3: Coefficientsa of the Relationship between Corporate
Governance and the Combined ROI of Pension Funds

Coefficientsa											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-35.689	22.902		-1.558	.126					
	Board structure and composition	53.518	69.951	.256	.765	.448	.366	.109	.087	.116	8.621
	Board Responsibilities	-66.058	54.893	-.326	-1.203	.235	.245	-.169	-.137	.178	5.631
	Shareholder′s Rights	-15.084	25.867	-.075	-.583	.562	-.170	-.083	-.067	.792	1.263
	Disclosure and transparency	46.419	43.249	.230	1.073	.288	.302	.152	.122	.283	3.538
	Commitment to Corporate governance	-9.610	15.185	-.074	-.633	.530	-.133	-.090	-.072	.959	1.043

	Role of stakeholders	95.770	32.643	.421	2.934	.005	.539	.387	.335	.632	1.582
	Stakeholders' interests in board decisions	25.162	20.104	.147	1.252	.217	.200	.176	.143	.945	1.058
a. Dependent Variable: Combined ROI of pension funds										

9.3 The Intervening Effect of IS Index on the Relationship between Corporate Governance Indicators and Combined ROI of Pension Funds

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

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

A composite value was not computed for the CG but each indicator was adopted (Board structure and composition, Board Responsibilities, Shareholder's Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions). Seven sets of regression models were utilized to separately establish the intervening effect of the IS Index on the relationship between governance and financial performance of pension plans. Baron and Kenny's (1986) as well as Hsu, Wang and Hsu's (2012) three steps were followed to examine the intervening effect. The path analysis/stepwise regression analysis below was utilized.

9.4 Path Analysis/stepwise Regression Analysis

This is a statistical method of testing cause/effect relationships and entails four steps:

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

Where,
Y = composite score for financial performance
a_0 = regression constant
X = composite score for corporate governance indicator
Me = mediating factor-composite score for IS
Pearson's product-moment correlation R.

9.4.1 Step One of Testing the Effect of Cg Indicators Variables on the Combined Roi of Pension Funds (Step 1: $Y = a_0 + \beta_1 X_1 + \varepsilon$)

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

The study findings, in addition, established that only the Role of stakeholders (RS) had a statistically significant positive effect on the combined ROI of pension funds, whereas Board structure and composition (BS&C), Disclosure and transparency (D&T) and Stakeholders interests in board decisions (SIBD) showed a positive but statistically non-significant effect on combined ROI of pension funds. In contrast, Board Responsibilities (BR), Shareholder's Rights (SR) and Commitment to Corporate Governance (CCG) had a negative and statistically non-significant effect on the combined ROI of pension funds, as indicated in Table 4.3. The predictor model, taking into account the significance levels, is as indicated below:

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

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

9.4.2 Step Two of Testing the Relationship between Corporate Governance Indicators and Investment Strategy (IS Index) (Step 2: $Me = a_0 + \beta_1 X_1 + \varepsilon$)

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

value is < 0.001. The model is, therefore, significant in predicting the Mean IS Index Dummy Variable with $F_{(7, 49)} = 71.819$, $p < .001$ (Table 4.5).

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

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

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

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

Model Summary[b]										
				Std. Error of the Estimate	Change Statistics					Durbin-Watson
Model	R	R Square	Adjusted R Square		R Square Change	F Change	df1	df2	Sig. F Change	
1	.955a	.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	<.001b
	Residual	.382	49	.008		
	Total	4.304	56			
a Dependent Variable: IS INDEX						

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

Source: Author's primary analysis, 2023.

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

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

9.4.3 Step Three of Testing the Relationship between the Combined Roi of Pension Funds and Investment Strategy (IS Index)

Table 4.7: Model Summary of Combined ROI of Pension Funds and IS Index

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.429[a]	.184	.169	46.59898	.184	12.386	1	55	<.001	2.160
a. Predictors: (Constant), IS Index										
b. Dependent Variable: Combined ROI of pension funds										

Source: Author's primary analysis, 2023.

Table 4.8: 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**		**Standardized Coefficients**	**t**	**Sig.**	**Correlations**		
		B	**Std. Error**	**Beta**			**Zero-order**	**Partial**	**Part**
1	(Constant)	-7.084	12.842	.429	-.552	.583	.429	.429	.429
	IS INDEX	79.179	22.455		3.526	<.001			
[a] Dependent Variable: Combined ROI of pension funds									

Source: Author's primary analysis, 2023.

The third step involved expressing the combined ROI of pension funds as a function of the intervening factor IS Index. The results in Table 4.7 shows that R^2 for the overall model in step three was .184 with an adjusted R^2 of .169, indicating a weak size effect of the model (value of < 0.3 is weak, value between 0.3 and 0.5 is moderate and value > 0.7 means strong effect on the dependent variable, Srinivasan, 2020). This implies that 18.4% of the variation in the Combined ROI of the pension funds variable is accounted for by the regression, a linear combination of the predictor variable IS Index variable. The F statistic, the test of the entire regression, shows that at 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 $F(1, 55) = 12.386$, $p < .001$, as shown by ANOVA Table 4.8.

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

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

Combined ROI of Pension Funds = -7.084 + 79.179IS Index

It is noted that Steps 1-3 establish whether zero order relationship among the variables exists. If one or more of these relations are not significant, then mediation is not possible. Since all three steps were significant, the study proceeded to Step 4.

9.4.4 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	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.637a	.405	.306	42.582	.405	4.087	8	48	<.001
a 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

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59291.006	8	7411.376	4.087	<.001b
	Residual	87035.785	48	1813.246		
	Total	146326.791	56			
a. Dependent Variable: Combined ROI of pension funds						
b. Predictors: (Constant), IS INDEX, Commitment to Corporate governance, Stakeholders interests in board decisions, Shareholder´s Rights, Role of stakeholders, Disclosure and transparency, Board Responsibilities, Board structure and composition						

Source: Author's primary analysis, 2023.

Table 4.12: Coefficientsa

Coefficientsa											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-12.490	25.593		-.488	.628					
	Board structure and composition	-37.750	84.064	-.181	-.449	.655	.366	-.065	-.050	.076	13.075
	Board responsibilities	-91.704	55.311	-.452	-1.658	.104	.245	-.233	-.185	.167	6.004
	Shareholder´s rights	-19.205	25.338	-.095	-.758	.452	-.170	-.109	-.084	.786	1.273
	Disclosure and transparency	30.918	43.017	.153	.719	.476	.302	.103	.080	.272	3.676
	Commitment to corporate governance	-5.311	14.996	-.041	-.354	.725	-.133	-.051	-.039	.936	1.068
	Role of stakeholders	77.630	33.312	.341	2.330	.024	.539	.319	.259	.578	1.730
	Stakeholders' interests in board decisions	27.301	19.652	.159	1.389	.171	.200	.197	.155	.942	1.062
	IS INDEX	128.119	68.878	.695	1.860	.069	.429	.259	.207	.089	11.260
a. Dependent Variable: Combined ROI of pension funds											

Source: Author's primary analysis, 2023

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

The F statistic, the test of the entire regression, shows that at α = .01 this regression is statistically significant because the p-value is < 0.001. The model is, therefore, significant in predicting the combined ROI of the 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 the Role of stakeholders (t = 2.330, p < .05) on the combined RIO of pension funds. The other factors of CG indicators and IS Index were, nonetheless, non-significant in predicting the 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 - 37.750BS&C - 91.704BR - 19.205SR + 30.918D&T - 5.311CCG + 77.630RS + 27.301SIBD + 128.119IS

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

The third objective of the study is to investigate the moderating effect of macroeconomic factors on the relationship between CG and the financial position of pension plans. Moderation occurs when the relationship between two variables depends on a third variable, the moderator. The effect of a moderating variable is characterized statistically as an interaction.

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

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

9.4.5 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]

Model Summary[e]										
				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	.539[a]	.290	.277	43.45326	.290	22.496	1	55	<.001	1.964
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	
[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 (%)										
Dependent Variable: the combined ROI of pension funds										

Source: Author's primary analysis, 2023

Table 4.14: ANOVA[a]

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 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 suggest 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 4.14 suggests that the F statistic, the test of the entire regression, shows that at $\alpha = .01$, the regression of the four models is 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 $(4,52) = 13.458$, $p < .001$.

9.4.6 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 Summary[b]

Model Summary[b]										
					Change Statistics					
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

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 in Table 4.15 show that R^2 for the overall model was .784 with an adjusted R^2 of .705, indicating a strong size effect of the model (value of < 0.3 is weak, value between 0.3 and 0.5 is moderate, and value > 0.7 means strong effect on the dependent variables,

Srinivasan, 2020). Thus, 78.4% of the variation in the combined ROI of pension funds is accounted for by the regression, a linear combination of the predictor variables corporate governance indicators (Board structure and composition, Board Responsibilities, Shareholder′s Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions and macroeconomic variables (GDP Growth Rate, Inflation rate, Exchange rate (KS/US$), Commercial Banks weighted average lending interest rates, CBK 91-Day T Bill, Balance of Payments and NSE 20 Share Index, unemployment rate). Study results establish that, unlike stepwise analysis, the 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 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 in Table 4.16).

Table 4.17: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3765.447	1340.057		2.810	.008		
	Board structure and composition	65.836	45.846	.315	1.436	.159	.109	9.144
	Board responsibilities	-59.126	36.245	-.292	-1.631	.110	.165	6.062
	Shareholder′s rights	-16.420	16.824	-.081	-.976	.335	.758	1.319
	Disclosure and transparency	5.267	29.363	.026	.179	.859	.248	4.027
	Commitment to corporate governance	2.280	10.412	.017	.219	.828	.826	1.211
	Role of stakeholders	50.620	22.231	.222	2.277	.028	.552	1.812
	Stakeholders' interests in board decisions	11.292	13.372	.066	.844	.403	.865	1.156
	GDP Growth Rate (%)	39.113	20.035	.508	1.952	.058	.078	12.840
	Inflation (%)	-298.125	43.908	-3.253	-6.790	<.001	.023	43.558
	Exchange rate (KS/US$)	-142.011	23.363	-8.710	-6.079	<.001	.003	389.578
	Commercial Banks weighted average lending interest rates	248.618	42.849	4.680	5.802	<.001	.008	123.432
	CBK 91-Day T Bill	1477.433	298.888	8.259	4.943	<.001	.002	529.691
	Balance of payments	-8066.328	1354.306	-4.534	-5.956	<.001	.009	109.930
	NSE 20 Share Index	-2.087	.365	-16.670	-5.713	<.001	.001	1615.517
	Unemployment rate	-73.318	78.120	-.604	-.939	.353	.013	78.659

a. Dependent Variable: the combined ROI of pension funds

Source: Author's primary analysis, 2023.

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

Model 5: Moderating effect of macroeconomic factors

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

9.4.7 The Joint Effect of Corporate Governance Indicators, Macroeconomic Variables and Investment Strategy (IS) Index on the Combined ROI of Pension Funds

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

H₄: 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 for the joint effect of CG, macroeconomic variables, investment strategy and the combined ROI of pension funds registered by the RBA are tabulated in tables 4.18-4.20. The joint effect involves expressing the combined ROI of pension funds of pension schemes as a function of the IS Index and of CG indicators and macroeconomic variables.

Table 4.18: Model Summary of the Joint Effect of CG Indicators, IS Index
and Macroeconomic Variables on the Combined ROI of Pension Funds

Model Summary[b]									
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**				**Durbin-Watson**
					R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**	
1	.907[a]	.822	.751	25.49247	.822	11.573	16	40	<.001	1.438
[a] Predictors: (Constant), Unemployment rate, Shareholder´s Rights, Board structure and composition, Commitment to Corporate governance, Stakeholders interests in board decisions, GDP Growth Rate (%), Role of stakeholders, Balance of Payments, Inflation (%), Exchange rate (KS/US$), Disclosure and transparency, Commercial Banks weighted average lending interest rates (%), Board Responsibilities, IS Index, CBK 91-Day T Bill, NSE 20 Share Index									
[b] Dependent Variable: Combined ROI of pension funds									

Source: Author's primary analysis, 2023.

Table 4.19: ANOVAa of the Joint Effect of CG indicators, IS Index
and Macroeconomic Variables on the Combined ROI of Pension Funds

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	120332.160	16	7520.760	11.573	<.001[b]
	Residual	25994.631	40	649.866		
	Total	146326.791	56			
[a] Dependent Variable: Combined ROI of pension funds						
[b] Predictors: (Constant), Unemployment rate, Shareholder´s Rights, Board structure and composition, Commitment to Corporate governance, Stakeholders interests in board decisions, GDP Growth Rate (%), Role of stakeholders, Balance of Payments, Inflation (%), Exchange rate (KS/US$), Disclosure and transparency, Commercial Banks weighted average lending interest rates (%), Board Responsibilities, IS Index, CBK 91-Day T Bill, NSE 20 Share Index						

Source: Author's primary analysis, 2023.

The results show that the overall R2 of the model was .822, with an adjusted R2 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 for by the regression, a linear combination of the predictor variables CG indicators, IS Index and macroeconomic factors.

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

Table 4.20: Coefficients of the Joint Effect of CG Indicators, IS Index
and Macroeconomic Variables on the Combined ROI of Pension Funds

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

a. Dependent Variable: Combined ROI of pension funds

Table 4.20 suggests that only the Board Responsibilities (t = -2.511, p < .05), Exchange rate (KS/US$) (t = -6.301, p <.001), Balance of Payments (t = -6.058, p <.001), NSE 20 Share Index (t = -5.947, p <.001) showed a negative but statistically significant effect on combined ROI of pension funds. The other factors, IS Index (t = 2.942, p < .05) GDP, Growth Rate (t = 2.024, p <.050), Inflation (t = 7.100, p <.001), Commercial Banks weighted average lending interest rates (t = 6.078, p <.001) and CBK 91-Day T Bill (t = 5.197, p <.001) show a statistically significant positive effect on combined ROI of pension funds. Board structure and composition (t = -.405, p = .687), Disclosure and transparency (t = -1.422, p = .163, Shareholder´s Rights-(t = -.300, p = .766) showed a negative but statistically insignificant effect on Combined ROI of pension funds. whereas commitment to corporate governance

(t = .830, p =.412), Role of stakeholders (t = 1.583, p = .121), Stakeholders interests in board decisions (t = .987, p = .330) showed a positive but insignificant effect. The predictor model, taking into account the significance levels, is as specified below:

9.5 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 - 287.343Inflation - 135.784 EC + 239.778CBWALIR + 1428.483CBK - 7594.110BP – 2.001 NSE – 58.87UR

10. Discussion of the Findings

The main objective of the research was to investigate the relationship between the variables of Corporate Governance, Investment Strategy, Macroeconomic Variables and Combined ROI of pension funds registered by the RBA by 31st December 2020. The study findings for the hypotheses tested are discussed in this section.

10.1 The Relationship between Corporate Governance and Combined Return of Pension Funds

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

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

The findings are also in agreement with the G20/OECD Principles of Corporate Governance (2015), which affirm that corporate governance ensures that the interests of many constituents are taken into account. This helps to ensure that corporations operate for the benefit of society as a whole. Various scholars argue that stakeholders can play an active role in strengthening corporate governance systems. Based on agency theory, corporate governance (CG) is important in reducing agency conflicts between those who control and those who own residual claims in a firm. In other words, corporate

governance is a mechanism that helps to align management's goals with those of the stakeholders, which is to increase firm performance. The importance of stakeholder relations in building sustainable enterprises has been recognized by the OECD principles of corporate governance, which state that *"the competitiveness and ultimate success of corporations is the result of teamwork that embodies contributions from a range of different resource providers. It is, therefore, in the interest of corporations to foster wealth-creating corporations among stakeholders." (OECD, 2006).*

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

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

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

Cosh and Hughes (1997) do not find any evidence that institutional holdings in the UK alter the level of executive remuneration or the pay-performance relationship. It

is hypothesized that monitoring by institutional investors has a substitutive effect with compensation incentives. While direct shareholder monitoring is a good substitute for compensation incentives, the evidence suggests that the board and monitoring by institutional investors, on the other hand, are relatively weak monitoring devices and not a good substitute for direct monitoring.

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

According to the OECD, a strong disclosure regime that promotes real transparency is a pivotal feature of market-based monitoring of companies and is central to shareholders' ability to exercise their shareholder rights on an informed basis. Experience shows that disclosure can also be a powerful tool for influencing the behaviour of companies and for protecting investors. A strong disclosure regime can help to attract capital and maintain confidence in the capital markets. By contrast, weak disclosure and non-transparent practices can contribute to unethical behaviour and to a loss of market integrity at great cost, not just to the company and its shareholders but also to the economy as a whole (OEC, 2015). This suggests that effective implementation of Disclosure and Transparency measures should have a positive correlation with pension funds' financial performance. The study results are in congruence with the G20/OECD Principles of Corporate Governance (2015) on D&T.

In contrast, the study results on Board Responsibilities (BR) (t = -1.203, p = .235), Shareholder's Rights (SR) (t = -.583, p = .562) and Commitment to Corporate Governance (CCG) (t = -.633, p =.530) had a negative but insignificant effect on the combined ROI of RBA registered pension funds. This implies that non-adherence to BR, SR and CCG measures resulted in the decline of the combined ROI of pension funds. This could have been a result of the non-implementation of the stated CG framework by pension funds. The results are in line with the G20/OECD Principles of Corporate Governance (2015) or the Agency or the Stakeholder theories.

The study outcomes tend to partially agree with a number of research findings. Studies by Melis, 2000, D'Onza, Greco and Ferramosca, 2014, Allegrini and Greco, 2011 Zona, 2014 on Italian companies, for instance, resulted in conflicting results regarding the impact on firm performance of a range of board characteristics, including the board structure, the role of independent directors, the CEO leadership and ownership concentration. Di Pietra, Grambovas, Raonic, and Riccaboni (2008) found no relationship between board size and performance, whereas Romano and Guerrini (2014) found a positive relationship, especially in the water utility sector. Research into CEO duality (whether the CEO simultaneously serves as board chairman) also appears to generate

ambiguous results in the Italian context. In particular, CEO duality has negative effects (Allegrini and Greco, 2011) or positive effects (Zona, 2014) or no significant effects on performance (Fratini and Tettamanzi, 2015). Consequently, it is still unclear if and how the assumptions of agency theory are verified in the Italian context.

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

The study results are also in line with the OECD (2015) corporate governance framework. The later was designed to ensure strategic guidance of the company, effective monitoring of management by the board, and accountability to the company and the shareholders by the board. The board is, therefore, chiefly responsible for monitoring managerial performance and achieving an adequate return for shareholders while preventing conflicts of interest and balancing competing demands on the corporation. In addition, it is responsible for overseeing the risk management system and systems designed to ensure that the corporation obeys applicable laws, including tax, competition, labour, environmental, equal opportunity, health and safety laws, as well as being accountable to the company and its shareholders but also having a duty to act in their best interests. Furthermore, boards are expected to take due regard for and deal fairly with other stakeholder interests, including those of employees, creditors, customers, suppliers and local communities (G20/OECD Principles of Corporate Governance, 2015). Thus, it is postulated that there should be a positive correlation between pension financial performance and the implementation of the CG framework.

In the case of shareholders' rights, the OECD (2015) is of the view that the corporate governance framework should protect and facilitate the exercise of shareholders' rights and ensure the equitable treatment of all shareholders, including minority and foreign shareholders. All shareholders should have the opportunity to obtain effective redress for violation of their rights. Investors' confidence, such as pension funds, that the capital they provide will be protected from misuse or misappropriation by corporate managers, board members or controlling shareholders is an important factor

in the development and proper functioning of capital markets. Thus, it is expected that application of shareholders' rights should result in improved performance of pension funds.

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

These results suggest that family control lowers the agency problem between owners and managers (Fama and Jensen, 1983), but gives rise to conflicts between the family and minority shareholders when shareholder protection is low and control is high (Shleifer and Vishny, 1997). The author is also of the view that while active family control increases profitability compared to nonfamily firms, even when different judicial settings are considered within Western Europe, such increased profitability does not translate into higher valuations when shareholder protection is low. These results fit rather well with recent evidence that family control can increase firm value in a well-regulated economy such as the US (McConaughy, Henderson, Mishra, and Walker, 1998; Anderson and Reeb, 2003), whereas family control may harm minority shareholders due to the risk of expropriation when transparency is low such as East Asian firms (Faccio, Lang, and Young, 2001).

Similar findings were also observed in studies by Maher and Andersson (2000), who established that the financial performance of firms was influenced by the level of shareholder rights and the competence of existing court systems (Gompers, Ishii, and Metrick, 2001; La Porta, Lopez-de Silanes, Shleifer, and Vishny (2001); Lombardo & Pagamo, 1998). In particular, they ascertained that enhanced shareholders' rights resulted in higher financial performance of firms. Besley and Prat (2003), Mitchell and Yang (2005), and Manuel and Andreas (2008) found a positive relationship between good corporate governance and pension performance.

Wagner, Stimpert, and Fubara (1998) found that the probability of firms going under declined with boards controlled by outside directors. Zahra and Pearce (1989) aver that outsiders tend to be objective, unbiased and independent.

Other comparable empirical research results support the notion that business organizations can and should serve the interests of multiple stakeholders (Preston & Sapienza, 1990: 361) and that such service is associated with higher financial performance (Sisodia, Wolfe and Sheth, 2007), reputation (Fombrun and Shanley, 1990), and organizational performance (Greenley and Foxall, 1997) were observed. Nevertheless, some studies find conflicting results between social orientation and firm performance

(Aupperle, Carroll and Hatfield, 1985; Agle, Mitchell and Sonnenfield, 1999), and social orientation is often taken as emblematic of "stakeholder orientation".

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

10.2 The Relationship between Investment Strategy and Combined Return of Pension Funds

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

Step 1: Y = a_0 + $\beta_1 X_1$ + ε;
Step 2: M e= a_0 + $\beta_1 X_1$ + ε;
Step 3: Y = a_0 + $\beta_2 Me$ + ε;
Step 4: Y = a_0 + $\beta_2 Me$ + $\beta_1 X_1$ + ε

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

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

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

The findings are partly consistent with the study by Balagobei, S. (2018), who reported mixed results. The board size and audit committee have a significant impact on ROA, and board size has a significant impact on Tobin's Q, whereas board independence, CEO duality and director's ownership have an insignificant impact on both firm performance measures of ROA and Tobin's Q. Furthermore, the board size and audit committee have a negative relationship with firm performance. This study suggests that small boards are associated with higher firm performance, possibly through closely monitored management.

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

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

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

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

significant, then mediation is not possible. The results show that all the relations tested were significant; hence, the analysis proceeded to step four.

Step four of the mediation process, which involved expressing the combined ROI of pension funds. as a function of intervening factor IS Index and corporate governance indicators, revealed that the combined effect of the independent variables had a moderate size effect as indicated by the R^2 of the overall model of .405 with an adjusted R^2 of .306 implying that 40.5% of the variation in the combined ROI of pension funds variable is accounted by the regression, a linear combination of the predictor variable CG indicators and IS Index variable. The F statistic, the test of the entire regression, shows that at α = .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 5.29.

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

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

Corporate governance sets high integrity thresholds for protecting the interests of shareholders, creditors, suppliers and employees. Company boards that seek to meet these thresholds must be accountable, ethical and sensitive in their investment decisions. As such, corporate governance enables company boards to prioritize accountability when making investment decisions. Moreover, corporate governance grants company boards sufficient independence from the management teams and other stakeholders 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 interest among competing parties.

The study results are in agreement with Fama 1978, who opined that investment decisions are one of the factors that can increase firm value. Studies by Bajo, Maroc, and Sandro, 1998; Efni (2017), and Soumaya (2015) established that investment decisions can increase firm value. In contrast, study findings by Brio, Alberto and Julio (2003) and Lin and Kulatilaka (2007) showed that investment decisions tend to suppress increases in

firm value. Based on these observed patterns, Gunardi, Suteja, Nisa, and Amarananda (2022) concluded that a firm's value can be increased through investment decisions.

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

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

The third objective was to investigate the moderation effect of macroeconomic factors on the relationship between CG indicators and the combined ROI of pension funds. A multiple regression was carried out to investigate the moderating effect of macroeconomic variables GDP Growth Rate, Inflation, Unemployment rate, Commercial Banks weighted average lending interest rates in addition to such factors as Exchange rate (KS/US$), CBK 91-Day T Bill, Balance of Payments and NSE 20 Share Index (moderators) on the relationship between corporate governance and financial performance of pension plans. The results of the stepwise analysis of the regression indicated that the "R Square Change", which indicates the increase in variation explained by the addition of the interaction term (the change in R2), was realized in models 2-4 of 0.073, 0.075, and 0.070, respectively. This implies that the change in R2 is 7.3%, 7.5% and 7%, which is the percentage increase in the variation explained by the addition of the interaction variable NSE 20 Share Index in model 2, NSE 20 Share Index and Inflation rate in model 3 and NSE 20 Share Index, Inflation rate and GDP Growth Rate in model 4. The increase is statistically significant, as indicated in the "Sig. F Change" column ($p < .05$), in all the 3 models.

The study results suggest 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 the combined ROI of pension funds. The results are collaborated by findings in the ANOVA Table 5.18, which shows that the F statistic, the test of the entire regression, shows that at $\alpha = .01$ the regression of model 5 is statistically significant because their p values are < 0.001. The models are therefore significant in predicting the combined ROI of pension funds: Model 1 $F_{(1, 55)} = 22.496$, $p < .001$; Model 2: $F_{(2, 54)} = 15.418$, $p < .001$; Model 3: $F_{(3, 53)} = 13.786$, $p < .001$; Model 4: $F_{(4, 52)} = 13.458$, $p < .001$.

The regression analysis of all the macroeconomic factors collaborates with the findings of the stepwise regression analysis above. The results in Table 5.17 show that R2 for the overall model was .784 with an adjusted R2 of .705 indicating a strong size effect of the model. Thus, 78.4% of the variation is in the combined ROI of pension funds. Is accounted by the regression, a linear combination of the predictor variables corporate governance indicators Board structure and composition, Board Responsibilities, Shareholder´s Rights, Disclosure and transparency, Commitment to Corporate

governance, Role of stakeholders and Stakeholders interests in board decisions and macroeconomic variables GDP Growth Rate, Inflation rate, unemployment rate, Exchange rate (KS/US$), commercial banks weighted average lending interest rates, CBK 91-Day T Bill, Balance of Payments and NSE 20 Share Index. Study results establish that, unlike stepwise analysis, the 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 α = .01, this regression was statistically significant because the p-value is < 0.001. The model was, therefore, significant in predicting the combined ROI of pension funds. with $F_{(15,41)}$ = 9.916, p <.001 shown by the ANOVA (Table 5.18). The results thus indicate that there is a significant regression relationship between the dependent variable and the predictor variables, as 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 by the magnitude of the t statistics. Commercial Banks weighted average lending interest rates (t = 5.802, p < .001) and CBK 91-Day T Bill (t = 4.943, p < .001) had a positive but statistically significant effect on the combined ROI of pension funds. In contrast, Inflation rate (t = -6.790, p < .001), Exchange rate (t = -6.079, p < .001), Balance of Payments (t = -5.956, p < .001) and NSE 20 Share Index (t = -5.713, p < .001) had a negative but statistically significant effect on combined ROI of pension funds. The role of stakeholders (RS) (t = 2.277, p < .05), however, was the only factor among the CG indicators which had a statistically significant positive effect on the combined ROI of pension funds (Coefficients Table 5.19). 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) 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 the expected return of a security and a set of systematic risk factors as well as the study results by Chen (1986); Roll & Ross (1980) which established that factors such as GDP, changes in inflation and interest rates affect expected stock return.

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

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

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

The fourth objective of the study was to examine the joint effect of corporate governance, investment strategy and macroeconomic variables on the combined ROI of pension funds registered by the RBA as of 31st December 2020. The study hypothesis established that the joint effect of corporate governance, investment strategy and macroeconomic variables on the combined ROI of pension funds was statistically significant. The results, however, revealed mixed findings, particularly for CG indicators and macroeconomic variables.

The impact of Board Responsibilities on the joint effect on the 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 no implementation of the Board Responsibilities measures led to a statistically significant decline in the combined ROI of pension funds. Moreover, Board structure and composition, Shareholder´s Rights and Disclosure and transparency were negative but statistically insignificant. This suggests that non-adoption of the measures of these indicators resulted in the decline, though statistically insignificant in the combined ROI of pension fund of pension funds. In contrast, the results were positive but statistically insignificant for Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions. Thus, the application of these CG indicator measures resulted in an increase in the combined ROI of pension funds, though it was not statistically significant (Table 5.22).

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

For an effective approach for companies, the board structure will be determined by the Board Composition, which will depend on the size, composition, diversity, tenure, characteristics, experience, independence, election and time commitments. It is postulated that size should bring the benefit of a broader mix of skills, backgrounds and

experience, while the composition of a board should reflect a diversity of thought, backgrounds, skills, experiences and expertise and a range of tenures that are appropriate to perform its oversight function effectively. Moreover, on characteristics, the director should have integrity, strong character, sound judgment, an objective mind and the ability to represent the interests of all shareholders. The organisation should also have Board Committee Structure that permits the board to address key areas in more depth than may be possible at the full board level, such as the audit and compensation committee. This suggests that the application of CG principles will lead to improved financial performance of pension firms.

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

Equally, Alduais *et al.* (2022) affirmed that corporate governance is an important and effective technique for enhancing investors' confidence in existing and prospective companies and for creating opportunities for safe investment. This, they note, entails having the responsibilities of the board well outlined to ensure the strategic guidance of the company, effective monitoring of management by the board, and the board's accountability to the company and the shareholders; protect and facilitate the exercise of shareholders' rights and ensure the equitable treatment of all shareholders, including minority and foreign shareholders and recognise the rights of stakeholders established by law or through mutual agreements. In addition, they should encourage active cooperation between firms and stakeholders in creating wealth, jobs, and the sustainability of financially sound enterprises; improve access to capital, create capital markets, reduce investment risk; and ensure timely and accurate disclosure on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company. This implies that the significance of good corporate governance goes far beyond the interests of the shareholders in an individual company (G20/OECD, 2020) as envisaged by the Stakeholder Theory.

Various scholars such as Gobalet (1979), Sener and Selcuk (2019), and Pettinger (2019) observe that one of the most salient relationships in economic life is the positive link between investment and economic growth. As key functions of the financial system, the investment process involves three steps: mobilising capital, allocating capital among alternative ends, and monitoring the use of the invested capital. The result will,

nonetheless, be highly dependent on the institutional framework of laws, regulations and business practices that shape and affect the interactions between equity investors and the corporation, often summarized as corporate governance. A weak corporate governance framework will severely impede all stages of the investment process and, hence, the economy's overall prospects to build a strong private sector basis for economic growth. Researchers such as Almasria (2018), Almasria (2022b), Suman and Singh (2020); Habib and Jiang (2015), Alduais, Alsawalhah and Almasria (2022a) are of the view that corporate governance emerged as a response to the agency problem and a conflict of interest between a company's management, shareholders, and stakeholders. Moreover, instability and turmoil have affected some financial markets, as well as international companies, during periods of manipulation of financial statements, lack of corporate transparency, violation of shareholder rights, and the lack of a sound administrative structure capable of allowing shareholders to achieve their goals. Bimo, Engelbertha and Ni Luh Gde (2022), Feng, Abeer, and Ahmed (2020), Nguyen and Xiangkang (2015), Shahid and Abbas (2019), and Otman (2019) affirm that corporate governance is a good guide for companies, especially in balancing conflicts of interest between investors, company management, and other stakeholders.

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

The authors, however, showed that governance influenced the kind of investment strategy used, which had a positive correlation to the financial performance of investments of pension funds. In Switzerland, Manuel and Christian (2016) established that there is a direct relationship between corporate governance and the financial performance of pension plans. The relationship, however, is only slight in the category of assets selected. The study findings imply that the application of good corporate governance framework and investment strategies by pension funds is postulated to enhance the 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 5.22). The results are in concurrence with the Modern Portfolio Theory (MPT) of Markowitz (1952) which 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 the assumption that investors are risk-averse. Hence, they expect to be rewarded for taking additional risks, are rational, and have access to comparable information. The study findings were in line with Markowitz's (1952) theory of Portfolio Diversification, which has been instrumental in paving the way for modern asset pricing models to measure risks associated with equity returns, such as the Capital Asset Pricing Model (CAPM) of Sharpe (1964), Linter (1965) and Mossin (1966). The research results revealed that the investment strategies employed positively and significantly influenced the combined ROI of pension funds as indicated by the coefficient IS Index of t = 2.942, p < .05 (Table 5.21).

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

The study findings, in addition, established that the effect of macroeconomic variables on the joint effect of the model were mixed. GDP Growth Rate (t = 2.024, p <.05), Commercial Banks weighted average lending interest rates (t = 6.078, p <.001) and CBK 91- Day T Bill (t = 5.197, p <.001) had a positive and statistically significant joint impact on the combined ROI of pension funds. In contrast, Inflation (t = -7.100, p < .001), Exchange rate (KS/US$) (t = -6.301, p <.001), Balance of Payments (t = -6.058, p <.001), NSE 20 Share Index (t = -5.947, p <.001) had a negative and statistically significant joint effect on combined ROI of pension funds. The unemployment rate, however, had a negative but statistically insignificant joint effect on the combined ROI of pension funds (Table 5.20).

The study results revealed in ANOVA Table 5.19 indicate that the F statistic, the test of the entire regression of the joint effect, shows that at α = .01, the regression was statistically significant because the p-value is < 0.001. The model was, therefore, significant in predicting the combined ROI of RBA registered pension funds with F (16,40) = 11.573, p < .001, suggesting that the final model had great explanatory power. Moreover, the Coefficients Table 5.20, nevertheless, shows that Board structure and composition (t = -.405, p = .687), Shareholder's Rights (t = -1.422, p = .163, Disclosure and transparency (t = -.300, p = .766) showed a negative but statistically insignificant effect on the combined ROI of pension funds. On the contrary, Commitment to corporate governance (t = .830, p =.412), Role of stakeholders (t = 1.583, p = .121), Stakeholders

interests in board decisions (t = .987, p = .330) showed a positive but statistically insignificant effect on the combined ROI of pension funds.

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

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

11. Conclusions and Recommendations

11.1 Conclusions

The research investigates the relationship between financial performance of pension funds registered by the RBA Corporate governance indicators of Board structure and composition, Board Responsibilities, Shareholder's Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions, investment strategy and macroeconomic variables comprising GDP Growth Rate, Inflation, Exchange rate (KS/US$), Commercial Banks weighted average lending interest rates, CBK 91-Day T Bill, Balance of Payments, NSE 20 Share Index and unemployment rate.

The first hypothesis of the research investigated the effect of corporate governance on pension performance proxied by the combined ROI of pension funds. The results indicated that the null hypothesis was rejected. The study findings reveal that only the Role of stakeholders had a statistically positive and significant effect on the combined ROI of pension funds. This is in agreement of the Stakeholders Theory of Freeman (1984) which stresses the interconnected relationships between a business and its customers,

suppliers, employees, investors, communities and others who have a stake in the organization. The theory is based on the assumption that businesses can only be considered successful when they deliver value to the majority of their stakeholders. The conclusion from this finding is that a firm should create value for all stakeholders, not just shareholders.

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

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

The study findings on the variables board structure and composition, board responsibilities, shareholders' rights, and commitment to corporate governance, however, show a negative and non-significant effect on the combined ROI of pension funds. The findings imply that pension funds did not adhere to these governance frameworks, leading to declined performance. This is in agreement with the Agency and Stakeholders theories.

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

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

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

Step 4 of the study results nonetheless indicate that the entire regression indicates that the regression is positive and statistically significant in predicting the combined ROI of pension funds with an $F_{(1, 55)} = 12.386$, $p < .001$. The results are in concurrence with the research findings reported by Suartawan and Yasa (2016), Resti, Budi and Wita (2019), SyamsudinI, Iwan, Dwi and Erna (2020), Mumpuni and Indrastuti (2021), and Agustin and Anwar (2022), which indicate that investment decisions have a positive effect on firm value. This implies that investment decisions can increase a firm's value. On the contrary, the research results presented by Amaliyah and Herwiyanti (2020), Komala, Putu Shiely, Dewa , Putu Diah, and Ni Made (2019), and Attarie, Prima, Tri, and Srie (2018) indicate that investment decisions had no effect on firm value.

In addition, the research indicated that only the Role of stakeholders showed a statistically significant positive effect on the combined ROI of pension funds with a $t = 2.330$, $p < .05$. Disclosure and transparency, Stakeholders interests in board decisions and IS Index had a positive but insignificant effect on the Index combined ROI of pension funds. In contrast, Board structure and composition, Board Responsibilities, Shareholder´s Rights and Commitment to Corporate governance, had a negative but insignificant effect on the combined ROI of pension funds.

The findings confirm that through various prescribed governance mechanisms, including Board structure and composition, Board Responsibilities, Shareholder´s Rights and Disclosure and transparency, the combined ROI of pension funds can be improved

through their influence on investment strategies. For instance, corporate governance enables the board and directors to provide the necessary oversight of the review of the core purpose and strategic investment plan. The study results, however, indicate that Board Responsibilities, Shareholder's Rights and Commitment to Corporate governance had a negative and non-significant effect on the combined ROI of pension funds, implying non-adherence to the governance indicators.

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

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

The third hypothesis investigated the moderation effect of macroeconomic variables on the relationship between corporate governance and the combined ROI of pension funds. The results of the stepwise analysis of the regression indicated that the "R Square Change", which indicates the increase in variation explained by the addition of the interaction term (the change in R2), was realized in models 2-4 of 0.073, 0.075, and 0.070 respectively. This implies that the R2 change in models 2-4 was 7.3%, 7.5% and 7%, respectively, which is the percentage increase in the variation explained by the addition of the interaction variable NSE 20 Share Index in model 2, NSE 20 Share Index and Inflation rate in model 3 and NSE 20 Share Index, Inflation rate and GDP Growth Rate in model 4. The increase is statistically significant, as indicated in the "Sig. F Change" column (p < .05), in all the 3 models. The study results suggest 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 the combined ROI of pension funds.

The results are collaborated by findings in the ANOVA Table 5.42, which shows that the F statistic, the test of the entire regression, shows that at $\alpha = .01$ the regression of the four models is statistically significant because their p values are < 0.001. The models are therefore significant in predicting the combined ROI of pension funds: Model 1 $F_{(1,55)} = 22.496$, $p < .001$; Model 2: $F_{(2,54)} = 15.418$, $p < .001$; Model 3: $F_{(3,53)} = 13.786$, $p < .001$; Model 4: $F_{(4,52)} = 13.458$, $p < .001$.

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

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

The final hypothesis of the study examines the joint effect of corporate governance, investment strategy and macroeconomic factors on the financial performance of pension funds. The findings indicate that the joint effect is positive and statistically significant, as the final model had great explanatory power for the independent variables of corporate governance, investment strategy and macroeconomic factors. The research findings thus confirm the joint effect hypothesis that corporate governance, investment strategies and macroeconomic variables have a significant effect on the combined ROI of pension funds though the individual contribution effects of the factors varied.

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

Knowledge of both systematic and unsystematic risk factors is therefore critical in the management of investments in various pension funds. This implies that the MPT that

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

Conflict of Interest Statement

I would like to declare that I have no conflicts of interest to declare on all financial and non-financial interests and relationships, direct employment with a private sector entity, and service on private sector and non-profit Boards and advisory panels, whether paid or unpaid or in-kind help in support of the research or the preparation of the manuscript. I too did not have association or financial involvement (i.e. consultancies/advisory board, stock ownerships/options, equity interest, patents received or pending, royalties/honorary) with any organization or commercial entity having a financial interest in or financial conflict with the subject matter or research presented in the manuscript.

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