

Research Article**AN EVALUATION OF THE EFFECT OF CORPORATE GOVERNANCE AND MACROECONOMIC VARIABLES ON FINANCIAL PERFORMANCE OF PENSION SCHEMES IN KENYA****^{1,*}William Akwimbi, ²Duncan Ochieng, ²Josephat Lishenga and ²Martin Ogutu**¹Department of Business Administration, University of Nairobi, Nairobi, Kenya²Department of Finance and Accounting, University of Nairobi, Nairobi, Kenya**Received 15th September 2024; Accepted 18th October 2024; Published online 29th November 2024**

Abstract

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

Keywords: Corporate governance, Financial performance, Macroeconomic factors.

INTRODUCTION**Background of Study**

Financial Performance indicates how well a firm utilizes its assets to make the most of the owners' wealth and profitability, a key aspect of financial risk management. Farah, Ijaz and Naqvi (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 the operating performance, and are the main drivers for competitive advantage which is crucial for surviving economic downturns. Empirical literature on the relationship between corporate governance and company financial performance is extensive although the findings are mixed and not conclusive. Studies by Ficici and Aybar (2012), Clark and Urwin (2008), Moriarty and Zadorozny (2008), Chow (2005), Yang and Mitchell (2008) as well as Manuel and Andreas (2008) showed that that corporate governance is positively associated with firm performance whereas other studies show no such linkage (Larcker *et al.*, 2007; Dalton *et al.*, 1998; Heracleous, 2001; Bhagat & Black, 2002).

The results showing positive correlation are based on the theory that agency costs can be reduced significantly by a competent board of directors. Another crucial factor hypothesized to influence firm's financial performance is the Investment strategy. Stanko (2002), Eichholtz and Margaritov (2009) aver that investment strategy determines the investment mix of the asset portfolio which targets at having balance between investment risks and returns. The investment strategy is therefore a plan that guides the choice of the investments that firms make. According to Eaton and Nofsinger (2001) there is a positive association between risk and returns, meaning that a company will take more risk for better returns. Similarly, Tonks (2006) opined that there is a relationship between investment strategies adopted and pension financial performance. Thus, it is the authors' view that companies adopt apt investment strategies to attain higher returns for given investment risks. The literature is rather limited in theories especially the APT, the MPT, the Stakeholder theory, CAPM in a few emerging markets such as Pakistan, Turkey and Indonesia among others yet in the context of frontier stock markets, defined as less advanced and very small capital markets such as those in Africa, the evidence is nonexistent. Although they have been tested in large developed stock markets now and then. None of the evidence from the existing studies on the impact of several factors on pension financial performance in Kenya has been reported yet. This present work is the first pension scheme level analysis of the financial performance behaviour of Kenyan pension schemes involving a multifactor model. Studies by Olweny and Omondi (2011), Ochieng and Oriwo (2012) as well as Osoro (2015) provided valuable evidence from a survey of firms in Kenya, though none was on the pension sector. Since the overall pension regulatory reform was pursued in 1997, the pension sector financial performance in the country has not been intensively

***Corresponding Author: William Akwimbi,**

Department of Business Administration, University of Nairobi, Nairobi, Kenya

evaluated. The research was supported by the Agency theory, the Modern Portfolio Theory (MPT), the Arbitrage Pricing Theory (APT), the Capital Asset Pricing Model (CAPM) as well as the Stakeholder Theory (SHT). The Agency Theory proposes that there is an association between organizational structure and firms' financial performance. It aims at reducing the conflict of interest and agency costs that arise due to risk preferences, information failure and shareholders having minimal influence in decision-making in the firm. In concurrence, Marashdeh (2014) observed improved performance of firms when agency problems were reduced. The Stakeholder Theory on the other hand states that the financial performance of a firm has a direct relationship with other stakeholders who have interest in the firm, apart from the shareholders. The theory argues that a wider population interests impacts firm performance.

The Markowitz (1952) Modern Portfolio Theory conversely provides a practical method to make asset management and allocation decisions in order to maximize their overall returns within an acceptable level of risk. This can be achieved by reducing risk through selecting proportions of various assets to combine dissimilar financial assets to form a diversified investment portfolio. The theory of Portfolio Diversification has been instrumental in paving the way for modern asset pricing models to measure risks associated with equity returns. Subsequently, Capital Asset Pricing Model (CAPM) was developed by Sharpe (1964), Linter (1965) and Mossin (1966). The CAPM financial model describes the relationship between the risk of a security and the market as a whole. The theory estimates the expected rate of return for an investment using the expected return on both the market and a risk-free asset, and the asset's correlation to the market (beta).

The Arbitrage Pricing Theory (APT) proposed by Ross (1976, 1977), has come as an alternative to CAPM measure of risk-return. The theory hypothesizes that there is a correlation between expected return of a security and a set of systematic factors that affect assets risks. It appears to be influenced by macroeconomic factors that intuitively affect capital investment. The theory is based on the assumptions and insights developed in Inter-temporal capital asset pricing model (ICAPM) and Efficient Market Hypothesis (EMH) and like CAPM it is a linear model though of multiple betas rather than single beta as in CAPM (Chen *et al.*, 1986). Inter-temporal capital asset pricing model developed from portfolio selection behaviour is an equilibrium model that assumes investors hedge risky positions in the future investment opportunity set (Merton, 1973). According to the EMH, stocks always trade at their fair value on stock exchanges, which makes it impossible for investors to either procure undervalued stocks or sell stocks for overestimated prices. Although it is a foundation of modern financial theory, the EMH is very controversial. The study consequently utilized the four financial theories to develop test hypotheses that were used to investigate the impact of corporate governance, investment strategy, and macroeconomic variables on financial performance of pension funds in Kenya. The Retirement Benefits Industry plays a huge role in the world economy. Studies by Heijdra, Ligthart and Jency (2006); Watson (2007); and Yermo (2008) highlighted their significance by showing that they contribute immensely to growth and development of world economies through provision of retirement benefits, growth of financial services as well as development of capital markets. The OECD, for 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%. The industry grew from both member contribution and good performances leading to the assets under management growing to Kshs 1,547.4 billion in 2021, from Kshs 403.2 billion ten years ago, translating to a compound annual growth rate of 14.3% over the last 10-years (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) reports that such scandals included the Bank of Credit and Commerce International (BCCI) of 1991 and the Maxwell Pension cases in the UK; the Enron and WorldCom cases in the US; as well as the Satyam, Reebok and the Sahara cases in India. The authors opine that the cases involved unethical conduct, abuse of corporate power and alleged criminal activity by key managerial personnel. Furthermore, the 2007-08 collapse of the subprime mortgage markets and regional market crisis further highlighted the significance of good governance. The later, according to Nam and Nam (2004) and Antolín and Stewart (2009) included the 1997 Asian financial crisis and the 2008 Global financial crisis. 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) argues that the later development exacerbated the threat of pension funds failing to provide retirement income. Similarly, various challenges were witnessed in Kenya in the past two decades. They included operational malpractices, misappropriation of scheme funds, imprudent asset management, low coverage, unfunded liabilities, lack of transparency, and weak enforcement of pension laws among others. The situation was worsened by the deteriorating economy. It is noted that the impact of corporate governance, investment strategy and macroeconomic factors on financial performance of pension funds is widely studied in developed economies but there is a clear gap in in developing countries like Kenya necessitating further research in the subject.

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 get the best out of their wellbeing. The International Organization of Pension Supervisors (IOPS) (2008/9) described pension governance as the framework by which the management makes decisions about the pension fund's activities that encompass the formation of the board; the decision-making processes within the board; the required skills of the board; and the means by which the board is held responsible to shareholders. Maher and Andersson (1999) were of the view that a major component of improving performance of pension funds is the application of corporate governance principles. The authors assert that governance influences the development and functioning of capital markets and exerts a strong influence on resource allocation. It impacts upon the behaviour and performance of firms, innovative activity, entrepreneurship, and the development of an active small and medium enterprises (SME) sector. In an era of increasing capital mobility and globalization, the authors aver that corporate governance has become a crucial factor impacting

industrial competitiveness of OECD countries. The authors therefore are of the view that improved corporate governance reveals itself in firm's better financial performance both in developed and developing countries. Similarly, Shamim, Kumar and Soni (2014) avow that improved integrity and efficiency of firms as well as capital markets has an association with good corporate governance. The authors observe that poor corporate governance deteriorates company's potential leading to malpractices and declined performance. Moreover, they observe that firms implementing best corporate governance 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 this assertion that investors exhibit preference for well-governed firms. Another scholar, Chow (2005) argues that a firm's governance practices determines its behavior which subsequently impacts its stock market value. Equally, Shleifer and Vishny (1997) and Watson (2007) show that governance has a link with increased investor confidence, decline in fraud, reduction in regulation costs and increase in Growth Domestic Product (GDP) of countries. Donaldson et.al, (2001) nonetheless, observes that no globally accepted governance principles that safeguards and promote shareholders' assets exist meaning that their use varies across countries. Some vital components of good corporate governance identified by Bhasin (2013) comprise 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. Stewart and Yermo (2008) discerns that these included the Asian Financial crisis of 1997, the collapse of both the Enron Corporation in the US and the Swissfirst affair of Pensionskassen in Switzerland. The question that arises then is where were the regulators? It's a fair question after the failure of several ostensibly supervised financial institutions and companies as policymakers are once again set out to make the financial system less crisis-prone. Even so, there is an equally pressing question to answer: where were the directors? The collapse of these institutions suggests serious lapses of oversight not just from regulators but at the board level.

Jensen and Meckling (1976) suggests that the decline in value of pension assets can be reduced by Governance practices that help to reduce agency problems. The authors affirm that the Agency theory looks at management of companies as agents whose interest may depart from those of the principals who are the shareholders. Since both parties are utility maximizers, the authors avow that the agent or the principal will choose the option that increases his or her individual utility given the choice between the two alternatives. Eisenhardt (1989) nonetheless, affirms that the main focus of good governance is the implementation of contracts that result in improved business performance and decrease risk. Accordingly, David and Impavido (2003), opine that the theory encourage agents to act in the interest of shareholders as well as reduce them from acting inaptly.

Shleifer and Vishny (1997) argued that the board of directors critical role in the implementation of good corporate governance practices enhances financial performance of pension funds. In concurrence, Malik *et al.* (2016) and Yang *et*

al. (2009) aver that board size influences management functions such as monitoring, decision making and disclosure, although they note that existing empirical research findings are mixed across countries and industries, making the subject be still an important area for further research. Gallo (2005) stated that the independence of the board of a firm can be evaluated by examining the presence of non-executive directors on board. Similarly, Butt and Hassan (2009) are of the opinion that these directors are more effective monitors, playing a major role in value creation for the firm. They mitigate the conflict of interest between contracting parties and act in the best interest of shareholders. Equally, advocates of the Agency theory avow that the higher number of non-executives in the board monitor effectively the top management and protect the shareholders and other stakeholders. They accomplish this by preventing collusion of top managers to expropriate minorities' wealth.

Aanu *et al.* (2014) as well as Epps and Cereola (2008) add that the audit committee serve to protect the rights of shareholders and improve the financial performance of companies. Moreover, the authors are of the view that effective oversight of the annual auditing process depends on the audit committees which likewise superintend the system of internal controls and ensure firms are compliant with legal systems. For the case of CEO duality, Yang and Zhao (2014) opine that this concept is one of the most contentious governance issues in recent times. It has opposing effects that the boards must address. In concurrence, Strier (2005) observes that the CEO duality is a major source of conflict of interest. It was described by Rechner and Dalton (1991) as a situation when the same person holds both the CEO as well as the board Chairperson positions in a company. The authors however, aver that there is no legislation that bars companies having CEO undertake both duties. Studies by Dalton *et al.* (1998) and Wellalage and Locke (2011) reveal mixed and inconclusive empirical evidence on the effect of CEO duality on firm performance, hence it is worthy to study these variables in new market environment. Policy makers in a number of countries endeavored to mitigate flaws in governance through a number of measures that included legal and regulatory instruments besides voluntary codes and principles. Examples of such encompassed 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 Corporate Governance in Pakistan. In addition there was the Retirement Benefit Authority (RBA) Act Cap 197 of 1997 in Kenya besides, the Mwingozo Code of Governance for State Corporations (, Kamran & Shah, 2014). The RBA Act, Cap 197 serves to regulate, supervise and promote development of the pension sector and ensure their smooth functioning.

The Sarbanes-Oxley Act, the Sarbox or Sox, was an attempt by the government of the United States to legislate the Cadbury and OECD reports. The main objective was to protect investors from malpractices in addition to false financial reporting and improve their accuracy. The OECD on the other hand developed the first approved international code of corporate governance in 1999 in an attempt to address governance flaws on publicly traded companies with a primary goal of improving the legal, institutional and regulatory framework. Furthermore, the codes provided roles to be played by various players in developing good corporate governance practices such as the capital markets, investors, corporations, and other parties. Despite these efforts, Corporate governance flaws

persist globally resulting in poor performance of a several pension funds. Consequently, one enquires why governance reforms are not protecting retirement benefits. Could there be other factors influencing performance in addition to the level of development of countries? Gul and Tsui (2004) are of the view that this could be attributed to such factors as the basic legal systems, political stability, market size, corporate ownership and financial systems. There is limited empirical evidence of the impact of corporate governance on financial performance of pension funds in developing countries hence the need for further studies.

Macroeconomic Factors: Macroeconomic factors are described by Brinson *et al.* (2009) as factors such as financial, natural, or geopolitical events that broadly impact either positively or negatively regional or national economy, affecting a large population and are uncontrollable and beyond but have a link to the government policy. Corporate Finance Institute (CFI) (2020) defined it as a phenomenon, pattern, or condition that emanates from, or relates to, a large aspect of an economy. The characteristic may be a significant economic, environmental, or geopolitical event that widely influences a regional or national economy. Such factors include Gross Domestic Product, changes in interest rates, inflation rates, unemployment rate or something that affects the course or direction of a given large-scale economy such as monetary policies and other regulations. In addition, there exists natural disasters such as earthquakes, flooding, hurricanes, wildfires, 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 for instance investment, financing, working capital or dividend decisions whose goal is wealth maximization, differ from one company to the other. The authors nonetheless, are of the opinion that these decisions are influenced by the prevailing macroeconomic factors. In concurrence, Kahraman (2011) as well as Liu and Pang (2009) affirm that investors select assets in a portfolio based on these factors to improve portfolio performance.

The Arbitrage Pricing Theory (APT) by Ross (1976) suggests that there is an association between financial performance of firms and a number of variables including change in GDP, interest, inflation and exchange rates among others. The theory thus offers a multifactor pricing model for securities by proposing that the return of securities is a linear function of the macroeconomic 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); Bodie *et al.* (2008); and Pilinkus (2010) examined the impact real GDP, industrial production, lagged inflation and interest rate on stock performance. Their results indicated that these factors had a significant impact on portfolio performance. Studies in a developing country by Olweny and Omondi (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. Furthermore, Chelangat (2014) observed that these factors are closely monitored by businesses, governments and pension funds.

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)). The authors observe that 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) asserts that evaluation of portfolio performance is undertaken to determine whether portfolio managers add value compared to passive investment strategies that are indicated by well diversified benchmarks. This however, is negated by Fama's (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) argued 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, noted that business environments have uncertainties that influence firms' performance. Cheema and Din (2013) note that pension schemes are under scrutiny on their performance by stakeholders including policymakers, investors and fund trustees. They aver that performance information enables stakeholders 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. In addition, the analysis includes examination 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.

Other measure for evaluating the financial performance of companies include accounting-based performance metrics. They are a type of return on investments such as Return on Equity (ROE) and Return on Assets (ROA). Return on Assets is a ratio that shows how well a company is performing by comparing the profit it is generating to the capital it has invested in assets. It thus measures the profitability of a business relative to its total assets. In contrast, Return on Equity is a measure of a company's profitability that reveals how much profit a company generates with money that shareholders have invested in it. It looks at the firm's bottom line to gauge overall profitability for the firm's owners and investors. Stockholders are at the bottom of the pecking order of a firm's capital structure, and the income returned to them is a useful measure that represents excess profits that remain after paying mandatory obligations and reinvesting in the business. There is also market based measures such as Tobin Q (Daily & Dalton, 1993; Hermalin & Weisbach, 1991 and Lam & Lee, 2008). For the case of pension funds, their performance can be examined using risk adjusted performance measures comprising Sharpe's, Sortino's and Treynor's ratios which quantify the ability of pension fund managers to deliver an active management risk premium, with respect to benchmarks. The ratios assess fund returns but incorporate measures of risk. Sharpe's ratio shows how well the return of an investment compensates for the risk investors take. The higher the Sharpe ratio the better it compensates for risk. The grading threshold of the ratios are provided as: i) <1 – Not good; ii) $1-1.99$ – OK;

iii) 2-2.99 – Really good; and iv) >3 – Exceptional (Sharpe, 1966), where $\text{Return on assets/portfolio} = \frac{\text{Net Income}}{\text{Average total assets}}$.

Sharpe's ratio = $\frac{\text{Return of a portfolio (R}_p\text{)} - \text{Risk free rate (R}_f\text{)}}{\text{Standard deviation of portfolio's excess return (sP)}}$

Standard deviation of portfolio's excess return (sP)

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

Pension Schemes in Kenya: A Pension scheme is long term saving plan that is a legally binding contract with an objective of providing benefits to persons on retirement, on death, on having reached a particular age, on the onset of serious ill-health or disability, survivors benefits or in similar circumstances (OECD, 2002). Schemes are classified into various categories. The OECD using the multi-pillar approach identified three types: the First pillar, publicly managed pension schemes, the second pillar and the third Pillar. The first pillar comprise Defined Benefits and Pay-as-You-Go schemes which are financed based on a payroll tax. The second pillar include privately managed pension schemes that are provided as part of an employment contract while the third pillar encompass personal pension plans that form saving and annuity schemes. Private schemes are managed by fund managers and insurance companies. Retirement Benefit schemes may further be categorized based on two approaches: functional and institutional approaches resulting to plans being either public or private; occupational or personal; Defined Benefit (DB) or Defined Contribution (DC); funded or unfunded. For the case of Kenya, classification of pension schemes is based on the multi-pillar approach of Pillars I, II and III. Pillar I comprise the Public Service Pension Scheme and the National Social Security fund (NSSF). Pillar II encompasses 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 was to oversee the growth and development of the retirement benefits schemes and sector in the country. Despite this noble development, the financial performance of pension schemes in Kenya nonetheless, continued to face major challenges ranging from operational malpractices, misappropriation of scheme funds and lack of transparency, resulting in declined pension assets. Such incidences included the Kenya Medical Research Institute (KEMRI) pension fund loss of KS 295 million held in trust account (Naftali, 2005) and the Kenya Ports Authority (KPA) Retirement Benefits Scheme loss of KS 700 million in 2018. The events were aggravated by poor performance of the

economy. Limited empirical literature is available on the above factors on pension performance, hence the need for further research.

Research Problem

For the last decade, Pension industry in Kenya has been faced with a major problem of raising adequate financial resources to provide for retirement benefits to its members. Rumelt (1991) reports that previous financial literature has nonetheless, not yet come to a definitive conclusion as to what factors determine pension performance. Studies by Opler and Titman (1994) suggest that firm specific or internal factors such as corporate governance, investment strategy seem to be the major determinants of the operating performance, and are the main drivers for competitive advantage which is crucial for surviving economic downturns. Studies by other scholars including Yang and Mitchell (2005), Manuel and Andreas (2008) and Clark and Urwin (2008) similarly established a link between good governance practices and firm financial performance. In contrast, Daines and Klausner (2001); Coles, *et al.* (2008); Bhagat and Black (2002) found mixed and inconclusive results on the association between corporate governance and pension fund financial performance. Disharmony on the empirical results on the subject makes the issue current necessitating further research to enable a better understanding of the association among the study variables.

In Kenya a number of challenges were witnessed befalling the pension industry. They included operational malpractices, misappropriation of scheme funds and lack of transparency. The situation was worsened by deteriorating performance of the economy. Such malpractices included the loss of KS 295 million held in trust account of the Kenya Medical Research Institute pension fund (Naftali, 2005) while the Kenya Ports Authority (KPA) Retirement Benefits Scheme lost KS 700 million through illegal purchase of assets. In spite of enactment of the RBA Act Cap 197 in 1997 that was to provide oversight on the growth and development of the pension industry in the country, pension challenges persisted. A number of retirement benefit schemes under-performed due to accounting scandals and poor governance. Reviewed empirical literature identifies several research gaps. A limited number of local studies examined impact of multiple factors including governance practices, macroeconomic variables and investment strategy on financial performance of pension funds. Moreover, there was lack of unanimity on the effect of corporate governance practices on pension or firm performance in developed, developing or emerging economies. The findings too were in a number of cases inconclusive. Furthermore, most studies did not take into consideration the influence of moderating and mediating factors on the relationship between governance and pension performance. The use of multi-equation approach to investigate the impact of multiple factors on pension performance was not also exploited. The research thus sought to investigate the following key research question: What is the relationship between financial performance pension funds in Kenya and the factors corporate governance, investment strategy and macroeconomic variables?

Research Objectives

The main purpose of the research was to investigate the impact of corporate governance, investment strategy and macroeconomic factors on retirement benefit schemes

performance in Kenya. Specifically, the study sought to:

- i) Assess the impact of corporate governance on pension funds performance in Kenya.
- ii) Evaluate the influence of investment strategy, an intervening factor on the link between corporate governance and retirement benefit schemes performance in Kenya.
- iii) Investigate the impact of macroeconomic variables, moderating factors, on the relationship between corporate governance and pension funds performance in Kenya.
- iv) Examine the combined impact of corporate governance, investment strategy and macroeconomic variables on Retirement benefit schemes performance in Kenya.

Value of the Study

The research results present empirical evidence on factors that impact financial performance of retirement benefit schemes in Kenya. The proof is provided in form of descriptive statistics and regression analysis outcomes. The factors include corporate governance, investment strategy and macroeconomic variables. The results indicate the integrated effect of these factors on pension performance and extrapolate the corporate governance and pension fund performance conversation. The study findings in addition, presented from a developing country's perspective, empirical evidence on application of the theories anchoring the study. The theoretical and empirical evidence of the research contributed to a better understanding of the interaction of research variables. Furthermore, the findings provided valuable information for making comprehensive strategic decisions to achieve superior pension performance to practitioners, policy makers, trustees and plan members. Besides, the research results bridge the gap between research and practice. Certain scholars avow that research-based knowledge enhances organizational performance.

The crisis events of 2007-2008 that lead to financial meltdown and the large corporate failures brought to world attention the importance of Corporate governance and investment management. In particular, the research enabled the identification of good corporate governance practices and unearthed factors crucial to the investment process. Knowledge of the research findings will be crucial in decision making of various actors in portfolio management, especially investment managers; plan members and beneficiaries. Scholars argue that sound and informed investment decisions are a necessity in asset allocation, portfolio construction and risk management for one to improve financial performance of retirement benefit schemes. Research findings will also be of great value to the regulators of Capital Markets (CMA), pension schemes (RBA) and market participants (NSE) as they can use the results to guide the regulation process and to formulate necessary policies to guide investment management. Empirical literature is rather limited in the theories especially the MPT, the stakeholder theory, the Agency theory, the APT, CAPM among others in emerging markets as is the case in large developed stock markets. Furthermore, in the context of frontier stock markets, defined as less advanced and very small capital markets, the evidence is nonexistent. For the case of Kenya, scant empirical evidence is available currently. Thus the research outcomes helped build both theoretical and empirical information from a developing country's perspective on the factors that influence retirement benefit schemes'

financial performance.

Furthermore, the study provided additional information on issues on governance, investment management, systemic factors and pension performance. It is envisaged that empirical knowledge on these factors will guide policy makers, investment managers, pension managers, academicians and researchers develop acceptable corporate governance models that will guarantee future sustainability of retirement benefit schemes for the developed and emerging economies. In concurrence, scholars such as Hess and Impavido (2003) recognize that knowledge of corporate governance theory, Modern Portfolio Theory, Arbitrage Pricing theory will help in the sustainable development of the pension industry. The study revealed the applicability of the research theories and models in a developing country setting such as Kenya. The environment in this case differs significantly from that of developed countries, particularly in political, legal, economic, social and cultural settings. This provides the interpretation of study findings on the subject from a developing countries perspective. In addition, the study underscored the significance of the pension sector to the economy of the country. Chapter 2 provides an overview of the literature, both theoretical and empirical literature on financial performance of pension schemes and the factors influencing it.

LITERATURE REVIEW

Introduction

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

Theoretical Foundation of the Study

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

The Agency Theory: The Agency theory (AT) explains the relationship between the principal who employs another party the agent to work on its behalf in an organisation (Jensen & Meckling's, 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) avow that this necessitates protection of shareholders' interests, minimise agency costs and align principal-agents interest. According to the Agency theory, the agents and principals who are considered as rational actors, pursue the objective of maximising their individual utility with the least possible expenditure. Thus, given the alternative options, either party will select the option that surges his or her individual utility. The principals will, nonetheless find it challenging to know ex-ante which agents will self-aggrandise. Williamson (1985) therefore found it prudent for them to limit potential losses to their utility.

According to Jensen and Meckling (1976), companies are considered as a network of contracts among various stakeholders such as shareholders or equity holders, bond holders, employees, and the society at large. Consequently, payments of claims of different classes of stakeholders varies. The authors affirm that potential conflicts among the stakeholders, the principal-agent problem is likely to occur if there is lack of alignment of interests of different stakeholders with those of the agents in the firm who control major decisions. They are of the view that each class of stakeholders pursues its own interest which may be at the expense of other stakeholders. Classification of agency problems is done based on the conflicts between different parties of the organisation (Jensen & Meckling, 1976, Barnes *et al.*, 1985, and John & Senbet, 1996). Such include disagreements the authors note could be between stockholders (principals) and management (agent) (managerial agency or managerialism); 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).

The consequence of agency problems, according to John and Senbet (1998) is to diminish efficient operations of enterprises leading to adoption of ineffective investment strategies that are detrimental to economic growth and development. Thus, the authors argue that economic environment that enhances the application of good corporate governance 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 corporate governance mechanisms in market economies is the board of directors which is the main approach for shareholders to exercise control on top management. This is achieved in combination with external markets for corporate control as well as institutional and concentrated shareholdings. Although available literature on agency problem is extensive, a number of scholars observe that the following crucial questions on the board of governance keeps on recurring: How successful is the board in execution of its monitoring function? What is the contribution of the board to shareholder wealth? Does corporate control mechanisms act as a substitute for the board? How does board composition influence performance? What is the relationship between the board and management?

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

governance indicators on financial performance of retirement benefit schemes in Kenya. The governance indicators include Board structure and composition, Board Responsibilities, Shareholder's Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders, Stakeholders interests in board decisions. The Agency theory has however, encountered criticisms from a number of scholars. Such included Donaldson (1990) and Aguilera *et al.* (2008) who identified the theory's narrow nature that makes comparison and explanation of governance practices across different institutional and national context difficult. Similarly, Shapiro (2005) critiqued the theory for considering shareholders as the only ones with interests in the listed firms. Doucouliagos (1994) argued that there is failure to explain the complexity of human nature due to the theory's assumption that all motivations are self-serving. The theory nevertheless is justified for the research as it provides direct link between governance indicators and retirement benefit schemes' performance and explains the relation between parties' interest. In the event of disagreements, the author argues that the interests can be brought into alignment through monitoring and well-planned compensation system.

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. The author suggested that the theory expounds the interconnected relations between a business and its stakeholders and puts attentions to a company's values, ethics, and goals while underscoring social responsibility over profit. The author avows that by managing strong stakeholder relationships, a business can improve its performance and longevity.

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

Similar views were echoed by other scholars and practitioners such as Mayer (1996) who asserted that stakeholder interests should be managed to serve public interest. In agreement, the author states that "The 21st Century is one of Managing for Stakeholders" and affirms that companies' executives need to create value for all stakeholders, not just shareholders. Moreover, the author suggests that successful firms stand because they ensure stakeholder interests are aligned. In concurrence, Aguinis and Glavas (2011) acknowledge that the theory is about managing identified sets of participants in the corporation. It assumes 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. This may involve Corporate Social Responsibility (CSR) which 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 our society such as creating jobs, innovating, among others and that their success must be valued as a whole, not just in the returns they make for their shareholders. It's about value maximization, not wealth maximization. They thus avow that the theory serves as a means to improve efficiency and economic success.

Preston and Donaldson (1995) besides Jones and Wicks (1999) assert that the SHT has both normative and instrumental implications. They describe normative implications as a moral/ethical obligation to meet genuine claims of all stakeholders. In contrast, they state that instrumental implications mean the theory has a profit/wealth creating responsibility to maximize organizational wealth. This implies that stakeholders need to be involved in corporate decision-making process to enhance efficiency to attain superior firm performance (Kelly & Parkinson, 1998). Similarly, Williamson (1985) argues that the theory is predominantly about how governance practices supports the interests of both the shareholders and other stakeholders. Milton's (1990) shareholder theory however, sharply contrasts the SHT. The former advocates the view that a company's sole motivation is to advance its shareholders' interests which is largely concerned with monetary growth. In essence, the theory is about "making more profit at all costs" approach to business.

Critics of the SHT have however grown over time. Health and Norman (2004) observe that poor firm performance may be defended by managements' use of stakeholder reasons. Blair (1995) notes that there is a major challenge in accomplishing firms' wider objectives. Equally, Blattberg (2022), McAbee (2022) and Mansell (2013) observe that it is impossible to reconcile equitably the needs and interests of various stakeholder groups in a company as the stakeholders comprise multiple large and diverse groups. They argue that one or more of these groups will inevitably take a back seat at some point in the process. Other sets of stakeholders will hold more power than others, creating tension and disharmony. The SHT too undermines the principles on which a market economy is based. The authors claim that this arises due to the application of the 'social contract' political concept to the corporation which increases the opportunities of weak stakeholder exploitation by self-interested managers rather than to decrease them. Other scholars such as Jensen (2000), Marcoux (2000), and Sternberg (2000) view SHT as a reason for managerial opportunism. They argue that management actions to benefit multiple and diverse groups makes the theory more difficult to defend than the shareholder theory which engages in self-dealing. Moreover, they note that it is easier to judge performance of managers serving shareholders. Phillips, Freeman and Wicks (2003) are of the 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. In addition, the authors were of the view that SHT was superior as it was creating more accountability from managers who have more obligations and duties to multiple and diverse groups and therefore less likely to engage in self-dealing.

Marcoux (2000) views the SHT as one that largely provided for the distribution of financial outputs. This makes it to be perceived as one that is about distribution of resources of the organization, creating inherent conflict between shareholders and other stakeholders in terms of who gets what. The notion that a firm has a fixed pie of surplus or profits to distribute, and the view that the SHT and the and shareholder theory provide different schemes for distributing that wealth, then the difference between the two appears to be sharp and glaring. Other scholars including Freeman *et al.* (2003) assert that a critical part of the SHT is about process and procedural justice and not only about distribution. They note that this affects how they view the distribution of resources, and that their participation creates new openings for value creation or expanding the pie. Several studies referred to by the authors demonstrate stakeholders accepting results when they perceive the process as fair. Besides, they remark that distribution entails several resources apart from financial such as information. The later they note can be shared among stakeholders and does not pit shareholders against other stakeholders.

A number of scholars such as Gioia (1999), Marcoux (2000), and Sternberg (2000) are of the opinion that there is need to treat all stakeholders equally which encompasses egalitarianism and equalitarianism. This however, has resulted in critics highlighting the notion of treating stakeholders equally, particularly in discussions of what it means to manage stakeholders. Others such as Phillips, Freeman, and Wicks (2003) suggest that one can use forms of meritocracy to distribute the pie. Such include using Phillips' notion of fairness to give benefits proportionate to those received. Theorists of legitimacy and normative hubs suggest that meaningful distinctions among stakeholders can also be made, and that each firm may handle this issue differently depending on its own particular version of stakeholder theory.

The authors note that this criticism compounds the error of assuming the SHT to be primarily about distribution of financial outputs rather than as about process and concern in decision making. Hendry (2001a) and Van (2001) are of the view that the SHT requires review due to its weaknesses, particularly on the issue of shareholder management and that of making easier to practice SHT. They observe that there is need to remove the notion that doing anything other than shareholder management is illegal or to make SHT more transparent and easier to use without violating core principles of business law. Although performance of pension funds is hypothesized to have a link with the interests of stakeholders, limited empirical evidence is available to that effect. Researchers such as Jones and Wicks (1999) evaluated the performance of companies using measures of social performance as well as economics. Others including Alkhafaji (1989) examined the firm's role to satisfy a wider set of stakeholders, including shareowners. Agle *et al.* (1999) and Wieland (2005) focused on the perception of the board members on their stakeholders or corporate social responsibility (CSR) orientation while Hillman *et al.* (2001) examined the representation of stakeholders on the board of directors. Their study findings indicate that firm performance improved with stakeholder engagement. Similarly, Demsetz and Lehn (1985) as well as Wallace and Cravens (1983) found that audit and shareholder relation committees that protect shareholder rights in large US public firms enhanced financial performance particularly, for firms with these nomination

committees than those without. Other empirical research by scholars such as Preston and Sapienza (1990: 361); Sisodia, Wolfe and Sheth (2007); Fombrun and Shanley (1990); Greenley and Foxall (1997) supports the view that firms should serve the interests of multiple stakeholders which leads to higher financial performance and organizational performance. In contrast, studies by Aupperle, Carroll and Hatfield (1985); Agle, Mitchell and Sonnenfeld, (1999) found conflicting results between social orientation and firm performance. They discern that social orientation is often taken as emblematic of "stakeholder orientation". Locally, limited researches has been carried out to investigate the impact of stakeholder interests on financial performance of retirement benefit schemes.

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

The APT model

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

Where:

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

α_i = the stock specific effect for stock i ,

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

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

e = the unsystematic return components of the stocks.

Empirical review

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

Corporate Governance and Firm Performance: Existing empirical literature on corporate governance is mainly from US and OECD firms (Maher & Andersson, 2000). Research

finding showed that the financial performance of firms was influenced by the level of shareholder rights and the competence of existing court systems (Gompers *et al.*, 2001; La Porta, *et al.*, 2001; Lombardo & Pagamo, 1998). In particular, they established that enhanced shareholders' rights resulted in higher financial performance of firms. Besley and Prat (2003), Mitchell and Yang (2005), and Manuel and Andreas (2008) found positive relationship between good corporate governance and pension performance. Wagner *et al.* (1998) found that the probability of firms going under declined with boards controlled by outside directors. Zahra and Pearce (1989) aver that outsiders tend to be objective, unbiased and independent. Mixed and sometimes inconclusive results on the relations between corporate governance and firm performance were also found by scholars such as Daines and Klausner, 2001 (examined takeover defenses), Larcker, *et al.* (2007) (examined board and ownership variables) and Coles, *et al.* (2008) (considered board size). Clarke (2009) observed that corporate governance systems failed to prevent financial crisis and corporate collapses across different economies. Heracleous (2001) reports that researchers failed to find any convincing connection between the best practices in corporate governance and organizational performance. Studies on corporate governance of pension funds 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. Mutegi (2014) established that corporate governance structures of occupational retirement benefit schemes in Kenya had a correlation with the financial performance of pension plans. Njuguna (2011) found that good corporate governance 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. Ongore and Kobonyo (2011) assessed the relationship between financial performance of NSE listed firms and governance. They established significant relationships between ownership concentration and profitability of firms.

Miring'u (2011) showed that the performance of board members significantly influenced the financial performance of state firms. Lishenga (2012) assessed the effects of board meetings for corporate governance on firm performance and established that improved regularity of board meetings enhanced firm performance. Arising from these findings, one notes that the focus was on firms and not pension funds. None of the studies too assessed the effect of several factors using a multi-equation approach or a composite measure of corporate governance on pension performance. Further studies are thus required to establish the effect of these factors using a multi-equation approach from a developing country's perspective.

Melis (2000), D'Onza, Greco and Ferramosca (2014), Allegrini and Greco (2011) and Zona (2014) investigated the performance of Italian companies and identified some conflicting results regarding the impact on firm performance of a range of board characteristics, including the board structure, the role of independent directors and the CEO leadership and ownership concentration. Whereas Di Pietra, Grambovas, Raonic and Riccaboni (2008) found no relationship between the board size and performance, 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,

Allegrini and Greco (2011) showed that the CEO duality had negative effects while Zona (2014) revealed positive effects. Fratini and Tettamanzi (2015) established that CEO duality had no significant effects on performance. Consequently, it is still unclear if and how the assumptions of agency theory are verified in the Italian context.

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

Another scholar, Maury (2006) assessed evidence on Shareholder's Rights. He examined how family-controlled firms perform in relation to firms with nonfamily controlling shareholders in Western Europe in a sample 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. These results fit rather well with recent provided by Anderson and Reeb's (2003) evidence that indicated family control can increase firm value in a well-regulated economy, whereas family control may harm minority shareholders due to the risk of expropriation when transparency is low. The benefits from family control occur in non-majority held firms. Fama and Jensen (1983) argue that these results suggest that family control lowers the agency problem between owners and managers.

In contrast, Shleifer and Vishny (1997) aver family control gives rise to conflicts between the family and minority shareholders when shareholder protection is low and control is high. The findings are in line with study results from the US where family firms tend to have higher valuations and profitability than nonfamily firms (McConaughy *et al.*, 1998, Anderson and Reeb, 2003). Villalonga and Amit (2004) find that the "US family premium" is mainly due to founding family CEOs. Anderson and Reeb (2003) show that the gains from family control starts to taper off when the ownership stake exceeds about 30%. In contrast to family premiums, Faccio *et al.* (2001) report that family control may harm minority shareholders in East Asian firms where transparency is low. In a study with a different focus, Kusnadi (2015) examines the effect of insider trading restrictions on corporate risk-taking. Using a cross-country sample of 38 countries over the 1990 to 2003 period, the author finds that corporate risk-taking is positively related to insider trading restrictions. This finding is robust to alternative regression specifications and sample periods, to the use of alternative measures of insider trading restrictions and risk-taking incentives, and to controls for possible endogeneity. Further investigation suggests that

the relation between insider trading restrictions and corporate risk-taking is influenced by cross-sectional differences in stock market development and legal origin, and that the increase in risk-taking is beneficial to firms. In conclusion, the study highlights the role of insider trading restrictions as an important determinant of corporate risk-taking.

The result showed that board size has significantly weak negative relationship with ROA but it was found to be insignificant to ROE. The other finding indicated that there was no relationship between board independence and firm performance. Similarly, by Jensen (1993) and Guest (2009) examined the effect of board structure and composition on firm performance. The authors established that a smaller board works more effectively in increasing firm performance than larger boards. These studies suggest that an increase in the board size increases agency problems, and thus, board members are less likely to participate in the management process. Finkelstein and Mooney (2003) nonetheless, found that 'independence' and performance of a firm are unconnected to each other. Notwithstanding, a number of studies discovered that there is no any relationship between board composition and firm performance including those of Dalton *et al.* (1998) as well as those of Bhagat and Black (2002). Others such as Andres and Vallelado (2008) provide a U shaped relationship between firm performance and the composition of the boards. In their research, Dalton *et al.* (1998) undertook a meta-analysis on a sample of 69 that consists of 12,915 companies. They assessed the relationship between board composition, board structure and financial performance. Their findings indicate there was no relationship between these variables. Again, results from the moderator analysis carried out on the impact of company size, nature of the financial performance indicators and different board compositions shows only a little relationship between board structure and firm financial performance. While focusing in another area, Ramdani and Witteloostuijin (2010) evaluated the impact of CEO duality and independence of the boards on firm performance on a sample of companies listed in the stock exchange market of four East Asian countries: Indonesia, Malaysia, Korea and Thailand using quartile regression analysis. Their finding demonstrated that while CEO/Chairperson duality is effective in some organizations, it was found to be ineffective in others. But their overall result shows a positive relationship between duality and firm performance. This seems to agree with the findings from a research conducted by Peng *et al.* (2010) on 300 state owned enterprises (SOE's) and privately owned enterprises (POS's) in China. The results show that while CEO/Chairperson duality is positive in POS's, it was however found to be negative in SOE's.

In contrast, it was found that other researchers showed a negative relationship. Such include that of Lyengar and Zampelli (2009). They investigated a sample of 1880 firms selected from different industries in the United States for the periods 1995-2003. The sample selection was based on firms which during the period under consideration were managed by CEO/Chairperson duality structure. Their findings suggests that CEO duality is negatively related to firm performance. This view is supported by Judge *et al.* (2003) and Mustinaet *et al.* (2010). The authors established that CEO duality is negatively related to firm financial performance. Equally, Melville, and Merendino, (2019) investigated the relationship between board structure and firm performance, to evaluate the

effectiveness and applicability of agency theory in the context of Italian corporate governance practice. The study measured and quantified the relationship between the board of directors' structure and the performance of Italian firms listed on the STAR segment of the Italian Stock Exchange over the period 2003-2015 taking into account those aspects which are considered to be fundamental to agency theory (Jensen, 1993): board size, independent directors, CEO/CM duality (when the CEO acts simultaneously as Chairman) and ownership. Their results suggest a non-linear relationship between independent directors and firm performance; a positive effect of board size on firm performance only for lower number of directors; and a lack of influence of directors appointed by minority shareholders on performance. Another study by Chaghadari and Chaleshtori (2011) investigated the relationship between relationship between corporate governance and firm performance on a randomly selected sample of companies listed on Bursa Malaysia. Epps and Cereola 2008 were of the view that the importance of Corporate governance (corporate governance) is to reduce agency conflicts between those who control and those who own the residual claims in a firm based on agency theory. Furthermore, agency theory assumes an opportunistic behaviour that is individuals want to maximize their own expected interests and are resourceful in doing so (McCullers & Schroeder 1982). Therefore, there will be a conflict of interest between managers and stakeholders.

Corporate governance as a mechanism helps to align management's goals with those of the stakeholders that are to increase firm performance by monitoring managers' performance (Brickley & James 1987). Since the value creation of corporate governance can be measured through the firm performance, the study sought to answer the question: "is there any relationship between corporate governance and firm performance?" Four board characteristics were investigated: board independency, CEO duality, ownership structure, and board size. They applied the linear multiple regression as the underlying statistical test. The results established that CEO duality had a negative relationship with firm performance (Return on Equity and Return on Asset) but there is no significant relationship between board independency, board size and ownership structure as independent variables and firm performance as dependent variable. Keywords: corporate governance, board of directors, firm performance.

Locally, Kobuthi, K'Obonyo and Ogutu (2015) investigated the effect of Corporate Governance on Performance of Firms Listed on the Nairobi Securities Exchange (NSE). The authors used a corporate governance index as a proxy for corporate governance based on the seven attributes of the revised Capital Markets Authority (CMA) draft code of corporate governance practices for public listed companies in Kenya that included board operations and control, rights of shareholders, stakeholder relations, ethics and social responsibilities, accountability, risk management and internal audit, transparency and disclosure and supervision and enforcement. A survey questionnaire was used for data collection and was distributed to 56 CEOs and corporation secretaries. The response rate was 87.5%. Annual reports for 2015 were used to compute the CGI score for the different organizations. The study established that there was a statistically significant relationship between corporate governance and non-financial performance of firms listed on the NSE. The finding validates the view that organizations can increase their performance by

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

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

In another study involving the Bombay Stock Exchange (BSE) Sensex, Singh (2010) assessed the impact of exchange rates, industrial production, and wholesale price Index on stock return from 1994/95 to 2008/09. The results found were mixed. The three factors had a positive link with stock return. However, when the Granger causality test was used to evaluate the findings, Index of industrial production was the only factor having bilateral causal relationship with BSE Sensex. The author concluded that in the Indian Capital Market asset's prices fully reflect existing information on exchange and inflation rates. In Kenyan, studies by Olweny and Omondi (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 need to monitor macroeconomic environment since these changes affect security returns. A review of the existing literature

nevertheless reveals that none of the studies investigated used a multifactor model to evaluate the impact of CG, macroeconomic variables and investment strategy on financial performance of pension funds. Equally, Kobuthi, K'Obonyo and Ogutu (2015) investigated the effect of Corporate Governance on Performance of Firms listed on the Nairobi Securities Exchange (NSE). The authors used a corporate governance index as a proxy for corporate governance based on the seven attributes of the revised Capital Markets Authority (CMA) draft code of corporate governance practices for public listed companies in Kenya that included board operations and control, rights of shareholders, stakeholder relations, ethics and social responsibilities, accountability, risk management and internal audit, transparency and disclosure and supervision and enforcement. A survey questionnaire was used for data collection and was distributed to 56 CEOs and corporation secretaries. The response rate was 87.5%. Annual reports for 2015 were used to compute the CGI score for the different organizations. The study established that there was a statistically significant relationship between corporate governance and non-financial performance of firms listed on the NSE. The finding validates the view that organizations can increase their performance by employing good corporate governance practices.

Empirical evidence on the joint effect of corporate governance and macroeconomic factors on pension performance: Empirical studies focusing on the effect of multiple factors on the association between corporate governance and pension fund financial performance are limited both in the developed and developing countries. This is a research area that needs attention. Previous studies on the relationship between corporate governance 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 corporate governance, investment strategy and macroeconomic factors on pension performance.

Conceptual Framework

The conceptual model is anchored on the theoretical foundation of the Agency Theory, the Stakeholder Theory and the Arbitrage Pricing Theory to show the relationship between corporate governance, 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. The study conceptualizes corporate governance as an independent variable with a multidimensional construct that influences the financial performance of pension funds, the dependent variable. Chow (2005) argued that a firm's various corporate governance practices shape its behaviour and eventually affect its stock market value. It is argued that corporate governance mechanisms and management control effectiveness play significant roles in enhancing financial performance of pension funds. Thus, there exists a link between corporate governance attributes and pension financial performance (H₁). The Agency concept postulates that there is a relationship between organizational structure and firms' financial performance. The theory seeks to resolve conflict of interest and agency costs that arise as a result of variation in risk preferences,

information failure and shareholders having minimal influence in decision-making in the firm, a role left to the management. Marashdeh (2014) postulated that reduced agency problems raise share value leading to improved performance. The Stakeholder Theory states that, apart from the shareholders, the achievement of a firm has a correlation with other stakeholders who have interest in the firm. It suggests that a wider constituency interests judge firm performance. The study as well hypothesizes that macroeconomic variables moderate the relationship between corporate governance and financial performance of pension funds (H₂). The Arbitrage Pricing Theory (APT) of Ross (1976) postulates that there is an association between expected return of a security and a set of systematic and un-systemic factors that affect the assets risks. The theory offers a multi-factor pricing model for securities. In addition, the study hypothesizes that the joint effect of corporate governance, investment strategy and macroeconomic factors on pension performance is significant (H₄). Loop H₄ depicts the conceptualized combinative influence of corporate governance (CG) indicators, macroeconomic variables and investment strategy (IS) on pension performance.

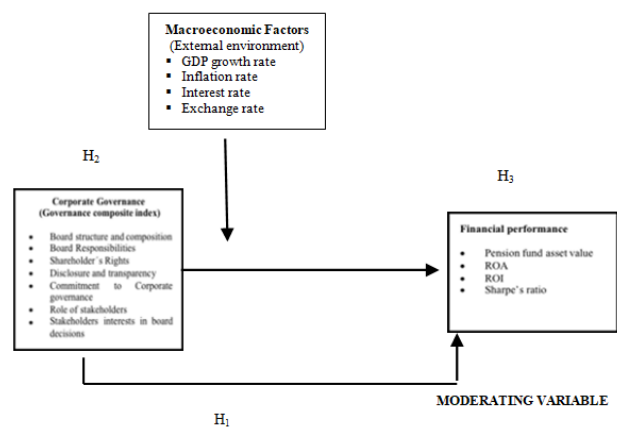


Figure 1. Conceptual Model

Hypotheses

The study tested the following hypotheses:

- H₁: Corporate governance has a significant relationship with the financial performance of pension schemes.
 H₂: Macroeconomic variables have significant moderating effect on the relationship between governance and fiscal position of occupational pension plans.
 H₃: The joint effect of Corporate Governance and macroeconomic variables on financial performance of pension schemes.

RESEARCH METHODOLOGY

Introduction

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

Research Philosophy

Research philosophy refers to a set of beliefs and assumptions that guide the development of new knowledge in a particular

area (Saunders *et al.*, 2019). Kuhn (1962) describes it as a system of scientists' beliefs and agreements that enables one to understand problems and find their solutions. The philosophy comprises assumptions that support research strategy and the methods one chooses and encompasses the concepts of epistemology, ontology and axiology. Epistemology is the study of knowledge acquisition and justified beliefs (Easterby *et al.*, 2008). It entails creation and propagation of knowledge in specific areas of research (Gertler, 2015). Ontology concerns the overall nature of reality specifying assumptions involved (Gruber, 1995) while axiology refers to the role of values and ethics in research (Heron, 1996). A research paradigm is an approach to undertake a study (Kuhn, 1962). Guba and Lincoln (1982) refer to it as a basic set of beliefs that guide action in research. Two main paradigms exist: positivism and phenomenological (Sekaran, 2003; Westland, 2004). The authors affirm that positivism involves working with an observable single reality that can be measured and known using quantitative methods to create law like generalizations. The generalizations help explain and predict behaviour and events in organizations. The focus on positivism is on scientific empirical approaches designed to provide unbiased data. It uses present theories to develop hypotheses to be tested and confirmed or refuted. Phenomenological paradigm on the other hand emphasizes that humans are different from physical phenomena because they create meanings (Saunders *et al.*, 2019). Interpretivists study these meanings. They believe that there is no single reality or truth, known only indirectly through the interpretations of people. To get those multiple realities, they use qualitative methods of observation, interviewing and description. The purpose of this type of research is thus to create new, richer understandings and interpretations of social worlds and contexts (Crotty, 1998). Since the study seeks to test quantitative and qualitative hypotheses, both positivistic and phenomenological research approaches will be used.

Research Design

Research design is overall strategy one chooses to integrate the different components of the study in a coherent and logical way to address the research problem (Trochim, 2006). Zikmund (2003) referred to it as the main plan for the collection, measurement, and analysis of data to address a research problem. Creswell (2008) identifies three research designs: qualitative, quantitative, or mixed methods. The quantitative method, which is based in the scientific method, relies on statistical procedures for data analysis. Quantitative implies using numerical data. 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. Qualitative studies 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 group.

The disadvantages are that you can't make general statements, and that analysis is time consuming. Others argue that the analysis is also very subjective, but this depends on one's approach. Qualitative methods are applicable to studies that involve relationships between individuals, individuals and their environments, and motives that drive individual behaviour and action. Berrios and Lucca (2006, p. 174) claimed that qualitative methods provide for a "better understanding of human development." The methods do not impose rigid rules and procedures similar to quantitative methodologies. They allow "richness of the personal experience" by providing in-depth information in the natural language of the experience. This allows data categorization by witnessing the experience in its natural setting, disallowing preconceived hypotheses, and using critical researcher judgment (Berrios & Lucca, 2006, p. 181). A mixed methods approach has recently emerged which combines quantitative and qualitative methods into a new methodology. The approach collects and uses quantitative and qualitative data in the same study. Many researchers believe this is a new methodology, although quantitative and qualitative data have been collected by researchers for many years. The combination of the two methods is a recent event. It involves philosophical assumptions that guide the direction of the collection and analysis of data for both qualitative and quantitative approaches in the research process. It focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone."

The study used both quantitative and qualitative research designs. The qualitative research design of in-depth interview was used to assess both the impact of corporate governance structures and investment strategies on financial performance of pension schemes. They examined about persons and the reason behind the thinking through collection of no-numeric data. The design was more descriptive and was used to draw inferences. It involved five methods: content analysis, in-depth interview, focused groups, ethnographic and case study research. The in-depth interview involves survey questionnaires, interviews and documentation review (Neuman, 2006). Both the Corporate governance Index and investment strategy Index were estimated using this method. Quantitative research designs assess the level of association between study variables using statistical analysis techniques (Creswell, 2013). They are classified as descriptive, correlational, quasi-experimental and experimental research designs, observing and describing the behaviour of a subject without influencing it in any way. Descriptive research describes the characteristics of the population or phenomenon that is being studied focusing more on the "what" of the research subject rather than the "why" aspect. It describes a subject population's critical variables that will provide answers to the questions of who, what, when, where, and how related with a specific study problem (Cooper & Schindler, 2003). The design involves three methods in data collection: observational, case study methods as well as survey research. This design is used when one wants to define respondent characteristics, measure data trends, conduct comparisons and validate existing conditions. Correlation studies investigate associations between variables and none of the variables are manipulated (Waters, 2017). Developmental studies evaluate changes over time. The study used descriptive, correlational, survey and developmental quantitative research designs to

assess the relationship between financial performance of pension funds and the variables corporate governance structures, investment strategy and macroeconomic variables including but not limited to interest, exchange and inflation rates as well as change in Gross Domestic Product (GDP). The study was also longitudinal as sample members were measured repeatedly over time. The quantitative data collected included performance measurements of pension funds, NSE 20 share Index, exchange, inflation and interest rates, changes in GDP. The research design as well took into consideration key ethical issues that arose across the various stages and duration of the research project to ensure maintenance of high ethical standard, responsible conduct, strived to minimize harms and risks, maximize benefits, respected human dignity, privacy and autonomy. Saunders *et al.* (2009) defined research ethics as the appropriateness of ones behaviour in relation to the rights of those who become the subject of or are affected by ones work. These issues relate to: the privacy of possible and actual participants; voluntary nature of participation and the right to withdraw partially or completely from the process; consent and possible deception of participants; and maintenance of the confidentiality of data provided by individuals or identifiable participants and their anonymity. In addition, it involves reactions of participants to the way in which you seek to collect data, including embarrassment, stress, discomfort, pain and harm; effects on participants of the way in which you use, analyse and report your data, in particular the avoidance of embarrassment, stress, discomfort, pain and harm; as well as behaviour and objectivity of you as researcher. The research therefore anticipated these ethical issues at each stage of the research process and developed a range of strategies to help deal with them.

Population of the Study

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

Sample Design

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

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

Where n_0 is the sample size; Z^2 is the critical value of the Normal distribution at $\alpha/2$, for example $Z= 1.96$ for a confidence level of 95%, α is 0.05; e is the required accuracy

level; p is the sample fraction with a characteristic; and N is the entire set of subjects. The selection of the period of study is informed by the fact that major corporate governance reforms were effected during that time, providing a scope to evaluate the influence of corporate governance as well as investment strategy and factors on pension fund financial performance. Size of the sample for the study was 61 estimated:

$$\begin{aligned} n &= \frac{Z^2 * N * \hat{p} / \{(N-1) * e^2 + (Z^2 * \hat{p}^2)\}}{1} \\ n &= \frac{1.96^2 * 73 * 0.5^2}{\{(73-1) * 0.05^2 + (1.96^2 * 0.5^2)\}} \\ &= 67.2768 / 1.1016 \\ &= 61.0718954 \end{aligned}$$

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

Data Collection

Data used in the study comprised both primary and secondary sources entailing time series and cross-sectional data covering the years 2012-2020, the time when major pension regulatory reforms were undertaken in sector. Data were derived from several sources. Quantitative data on monthly value of pension assets and their returns was obtained from individual pension funds records, annual reports or archives. Market surveys, annual reports and publications from the Central Bank of Kenya and the Kenya National Bureau of Statistics provided quantitative data on GDP, inflation and foreign exchange rates, corporate bond and T- bill rates while the Capital Markets Authority provided NSE 20 share Index. Primary data comprising corporate governance and investment strategy indices were obtained after analysis of qualitative data collected using survey questionnaires from the pension schemes. Corporate governance Index is used as a proxy measure of the effectiveness of the corporate governance mechanism. A corporate governance Index is built where governance mechanisms constitute inputs and governance standards from the codes of good practices constitute the outputs. The investment strategy index, a proxy measure of the effectiveness of investment strategy to influence pension fund financial performance, was developed from the various investment strategies used by funds to manage their investment plans as per the objectives and goals which they want to accomplish. The respondents for the questionnaires included elected members of the schemes' trustee sponsor, elected trustee, corporate trustee scheme administrator, scheme manager, custodian actuary and any other person with knowledge on the institution.

Data Analysis

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

$$\text{Pension Financial Performance} = a + b_1\text{CG} + b_2\text{IS} + b_3\text{Macro} + e$$

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

Corporate Governance (CG) and Pension Performance:

The first objective was to investigate the impact of corporate governance practices on pension performance of pension schemes registered by the RBA by 31st December 2020. The independent variable corporate governance was disaggregated as Board structure & composition (BSC), Management practices (MP), Transparency and disclosure (TD) and Shareholders' right (SR). The dependent variable was proxied by the variable combined ROI of pension funds. The regression model was:

$$\begin{aligned} \text{Pension Financial Performance (combined ROI of pension funds)} \\ = a + b_1 \text{GG} + b_2 \text{IS} + b_3 \text{MEV} + e. \\ \text{Combined ROI of pension funds} = a + b_1 \text{BSC} + b_2 \text{MP} + b_3 \text{TD} + b_4 \\ \text{SR} + b_5 \text{IS} + b_7 \text{MEV} + e. \end{aligned}$$

Where:

Combined ROI of pension funds = Return on investment
 BSC = Board structure & composition
 MP = Management practices
 TD = Transparency and disclosure
 SR = Shareholders' right
 IS = Investment strategy Index
 MEV = Macroeconomic variables (Unemployment rate, interest rate, GDP growth rate, NSE 20 share Index)
 e. = error term

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).

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.

$$\begin{aligned} Y = \beta_0 + \beta_1 * X + \beta_2 * Z + \beta_3 * X * Z + \epsilon \\ = \beta_0 + \beta_2 * Z + (\beta_1 + \beta_3 * Z) * X + \epsilon. \end{aligned}$$

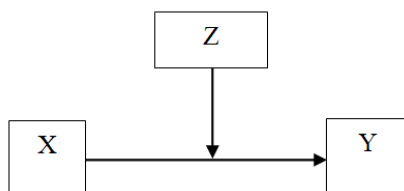


Figure 2. Moderation Path diagram

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 (BSC, MP, TD and SR), Investment strategy, macroeconomic variables and pension fund financial performance (combined ROI of pension funds) of the pension funds registered by the RBA by December 31 2020.

H₄: The joint effect of corporate governance and investment strategy is greater than the sum total of the individual effects of the independent variables on pension performance.

The investigation was done using the following regression equation:

$$Y = a_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_n + \epsilon$$

$$\text{Combined ROI of pension funds} = a_0 + \beta_1 \text{BSC} + \beta_2 \text{MP} + \beta_3 \text{TD} + \beta_4 \text{SR} + \beta_5 \text{IS} + \text{MEV}_6 + \epsilon$$

The next chapter of the paper, Chapter 4 reports the empirical results of the study.

HYPOTHESES TESTING AND DISCUSSION OF THE FINDINGS

Introduction

The study investigated hypotheses that evaluated the relationship among 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), IS Index, 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, NSE 20 Share Index, unemployment rate) 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 (R² or r-squared) together with the significance level (P-value) of the estimated coefficient will be used to test the study hypothesis. The coefficient of determination (R²) 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.

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: Corporate governance has a significant relationship with the combined ROI of pension funds in Kenya.

ROI of pension funds

The results show that R² for the overall model of the influence of CG indicators on combined ROI of pension funds was .362 with an adjusted R² of .271 indicating a weak size effect of the model (Table 1). This implies that 36.2% of the variation in the combined ROI of pension funds is accounted by the regression, a linear combination of the predictor variables Board structure and composition, Board Responsibilities, Shareholder's Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders, Stakeholders interests in board decisions (corporate governance indicators).

Table 1. Model Summary^b of effect of corporate governance on the combined

Model Summary ^b											
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson	
					R Change	R Square Change	F Change	df1	df2		Sig. F
1	.602 ^a	.362	.271	43.63799	.362	.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

Table 2. ANOVA^a of the relationship between corporate governance and the

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

a. Dependent Variable: Combined ROI of pension funds

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

Table 3. Coefficient^a of the relationship between corporate governance and the combined ROI of pension funds

Coefficients ^a												
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics		
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF	
1	(Constant)	-35.689	22.902		-1.558	.126						
	Board structure and composition	53.518	69.951	.256	.765	.448	.366	.109	.087	.116	8.621	
	Board Responsibilities	-66.058	54.893	-.326	-1.203	.235	.245	-.169	-.137	.178	5.631	
	Shareholder's Rights	-15.084	25.867	-.075	-.583	.562	-.170	-.083	-.067	.792	1.263	
	Disclosure and transparency	46.419	43.249	.230	1.073	.288	.302	.152	.122	.283	3.538	
	Commitment to Corporate governance	-9.610	15.185	-.074	-.633	.530	-.133	-.090	-.072	.959	1.043	
	Role of stakeholders	95.770	32.643	.421	2.934	.005	.539	.387	.335	.632	1.582	
	Stakeholders interests in board decisions	25.162	20.104	.147	1.252	.217	.200	.176	.143	.945	1.058	

a. Dependent Variable: Combined ROI of pension funds

Combined ROI of pension funds

ANOVA Table 2 shows that the F statistic, the test of the entire regression shows at $\alpha = .5$, 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 5.3 below however, indicate that only the Role of stakeholders (RS) ($t = 2.143$, $p < .05$) show a statistically significant positive effect on combined ROI of pension funds. Board structure and composition ($t = .765$, $p = .448$), Disclosure and transparency ($t = 1.073$, $p = .288$), and Stakeholders interests in board decisions ($t = 1.252$, $p = .217$), had a positive but statistically insignificant effect on the combined ROI of pension funds. In contrast, Board Responsibilities ($t = -1.203$, $p = .235$), Shareholder's Rights ($t = -.583$, $p = .562$), and Commitment to 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:

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

The moderating effect of macroeconomic factors on the relationship between CG indicators and combined ROI of pension funds: The third objective of the study investigated the moderating effect of macroeconomic factors on the relationship between corporate governance and financial position of pension plans. Moderation occurs when the relationship between two variables depends on a third variable, the moderator.

The effect of a moderating variable is characterized statistically as an interaction; that is, a categorical such as sex, race, class or quantitative such as level of reward variable that affects the direction and/or strength of the relation between dependent and independent variables (Baron and Kenny, 1986).

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

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

The stepwise analysis of the moderating effect of macroeconomic variables on the relationship between CG indicators and the combined ROI of pension funds: Table 4

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

Table 4. Model Summary^e

Model Summary ^e										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.539 ^a	.290	.277	43.45326	.290	22.496	1	55	<.001	
2	.603 ^b	.363	.340	41.53071	.073	6.210	1	54	.016	
3	.662 ^c	.438	.407	39.37951	.075	7.061	1	53	.010	
4	.713 ^d	.509	.471	37.18350	.070	7.445	1	52	.009	1.964
a. Predictors: (Constant), Role of stakeholders										
b. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index										
c. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index, Inflation (%)										
d. Predictors: (Constant), Role of stakeholders, NSE 20 Share Index, Inflation (%), GDP Growth Rate (%)										
e. Dependent Variable: the combined ROI of pension funds										

Table 5. 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 (%)						

Table ANOVA Table 5 suggests that the F statistic, the test of the entire regression shows that at $\alpha = .01$ the regression of the four models are statistically significant because their p values are < 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 predictor model taking into account the significance levels is as indicated below for the various models:

Model 1

The combined ROI of pension funds = $-12.250 + 122.579 RS$

Model 2

Combined the combined ROI of pension funds = $-131.407 + 119.485 RS + .034 NSE 20 \text{ share Index}$

Model 3

The combined ROI of pension funds = $-1.200 + 106.432RS + .049NSE 20 \text{ Share Index} -27.886Inflation$

Model 4

The combined ROI of pension funds = $38.714 + 109.841RS + .068NSE 20 \text{ Share Index} - 29.974Inflation -23.366GDP \text{ Growth Rate}$

Regression analysis of the joint effect of macroeconomic variables CG indicators on the combined ROI of pension funds: The results on Table 6 shows that R^2 for the overall model was .784 with an adjusted R^2 of .705 indicating a strong size effect of the model (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 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, 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). The F statistic, the test of the entire regression shows that at $\alpha = .01$ this regression was statistically significant because the p value is < 0.001 . The model is therefore significant in predicting the combined ROI of pension funds with $F(15, 41) = 9.916$, $p < .001$ shown by the ANOVA (Table 7). The Coefficients Table 8 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:

Table 6. Model 5 Summary

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	.885 ^a	.784	.705	27.770	.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 7. 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

Table 8. Coefficients

Coefficients ^a								
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

Model 5: The joint effect of macroeconomic factors and CG indicators on Combined ROI of pension funds

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 - 2.087 NSE 20 Share Index - 73.318UR.

DISCUSSION OF THE FINDINGS

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

The relationship between Corporate Governance and Combined Return of Pension Funds

The first objective of the study was to examine the relationship between corporate governance and combined return of pension funds registered by the RBA. The study hypothesis stated that the relationship between corporate governance indicators and combined return of pension funds registered by the RBA was statistically significant. The results however, revealed mixed findings for the individual contribution of corporate governance indicators.

The roles of stakeholders indicated a positive and statistically significant effect on the Combined ROI of pension funds. with $t = 2.934$, $p < .05$. This suggests that implementation of the role of stakeholder's (RS) measures resulted in increase in the combined ROI of pension funds registered by the RBA. This finding implies that the role of stakeholders has a positive and significant effect on performance-enhancing mechanisms. The results are in concurrence with Frémond (2000) Stakeholder model which states that the purpose of the corporation is to serve a wider range of interests that include but not limited to employees, shareholders, management, creditors, trade unions, suppliers, the local community, future generations. Moreover, Freeman [1984] avers that the parties can be negatively affected by the firm's actions through externalities such as unemployment, pollution, or financial instability. This contrasts with the shareholder model which opines that the purpose of the corporation is to promote shareholder value. The findings are also in agreement with the G20/OECD Principles of Corporate governance (2015) which affirm that corporate governance ensures that interests of many constituents are taken into account. This helps to assure that corporations operate for the benefit of society as a whole. Various scholars argue that stakeholders can play an active role in strengthening corporate governance systems. Based on agency theory, the importance of corporate governance (CG) is to reduce agency conflicts between those who control and those who own the residual claims in a firm. In other words, corporate governance as a mechanism helps to align

management's goals with those of the stakeholders that are to increase firm performance. The importance of stakeholder relations in building sustainable enterprises has been recognized by the OECD principals of corporate governance when it states that "the competitiveness and ultimate success of corporations is the result of team work that embodies contributions from a range of different resource providers. It is therefore in the interest of corporations to foster wealth creating corporations among stakeholders." (OECD, 2006).

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 responsibility for executing the essential pillars of corporate governance: accountability; oversight and monitoring; risk management; transparency; legal and regulatory compliance; strategy formulation; and policy development.

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

Mehran (1995) finds empirical evidence to support the view of the substitutive effects between direct monitoring by owners and compensation incentives; board monitoring or monitoring by institutional investors may also substitute for direct shareholder monitoring. In theory, the use of these other mechanisms should reduce the level of pay-incentives needed to align managers' incentives with those of shareholders. In practice, however, board members become like management and agency costs are expected. The author finds that the presence of outside directors, rather than decreasing the level of executive remuneration, actually increases the percentage of equity-based compensation.

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

According to the OECD, strong disclosure regime that promotes real transparency is a pivotal feature of market-based monitoring of companies and is central to shareholders' ability to exercise their shareholder rights on an informed basis. Experience shows that disclosure can also be a powerful tool for influencing the behaviour of companies and for protecting investors. A strong disclosure regime can help to attract capital and maintain confidence in the capital markets. By contrast, weak disclosure and non-transparent practices can contribute to unethical behaviour and to a loss of market integrity at great cost, not just to the company and its shareholders but also to the economy as a whole (OECD, 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 T&D. In contrast, the study results on Board Responsibilities (BR) ($t = -1.203$, $p = .235$), Shareholder's Rights (SR) ($t = -.583$, $p = .562$) and Commitment to Corporate governance (CCG) ($t = -.633$, $p = .530$) had a negative but insignificant effect on the combined ROI of RBA registered pension funds. This implies that non adherence to BR, SR and CCG measures resulted in decline of the combined ROI of pension funds. This could have been a result of none implementation of the stated CG framework by pension funds. The results are in-line with the G20/OECD Principles of Corporate governance (2015) or the Agency and the Stakeholder theories.

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

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

The study results are in addition in line with the OECD (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 of, 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 implementation of the CG framework. For the case of shareholders rights, the OECD (2015) is of the view that corporate governance framework should protect and facilitate the exercise of shareholders' rights and ensure the equitable treatment of all shareholders, including minority and foreign shareholders. All shareholders should have the opportunity to obtain effective redress for violation of their rights. Investors' confidence such as pension funds, that the capital they provide will be protected from misuse or misappropriation by corporate managers, board members or controlling shareholders is an important factor in the development and proper functioning of capital markets. Thus, it is expected that application of shareholders rights should result in improved performance of pension funds. The study findings contrast those by Maury, 2006 who examines how family-controlled firms perform in relation to firms with nonfamily controlling shareholders in Western Europe. The sample consists of 1672 non-financial firms. Active family control is associated with higher profitability compared to nonfamily firms, whereas passive family control does not affect profitability. Active family

control continues to outperform nonfamily control in terms of profitability in different legal regimes. Active and passive family control is associated with higher firm valuations, but the premium is mainly due to economies with high shareholder protection. The benefits from family control occur in non-majority held firms. These results suggest that family control lowers the agency problem between owners and managers (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 *et al.*, 1998, Anderson and Reeb, 2003), whereas family control may harm minority shareholders due to the risk of expropriation when transparency is low such as East Asian firms (Faccio *et al.*, 2001).

The study results are also in partial agreement with those of Mei Yu (2013). The later observes that while the relationship between state ownership and firm performance has been widely researched, the empirical evidence has provided mixed results. The author applied panel data regression techniques in the study to 10,639 firm-year observations of non-financial Chinese listed firms during 2003–2010 to examine the relationship between state ownership and firm performance. The results show that state ownership has a U-shaped relationship with firm performance. The Split Share Structure Reform in 2005–2006 played a positive role in enhancing the relationship between state ownership and firm profitability ratios. Although state ownership decreased significantly after 2006, it remains high in strategically important industry sectors such as the oil, natural gas and mining sector and the publishing, broadcasting and media sector. The findings reveal that a higher level of state ownership is superior to a dispersed ownership structure due to the benefits of government support and political connections. The Split Share Structure Reform made previously non-tradable shares legally tradable, improving corporate governance and reducing the negative effect of non-tradable state shares.

Similar findings were also observed by 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 *et al.*, 2001; La Porta, *et al.*, 2001; Lombardo & Pagamo, 1998). In particular, they ascertained that enhanced shareholders' rights resulted in higher financial performance of firms. Besley and Prat (2003), Mitchell and Yang (2005), and Manuel and Andreas (2008) found positive relationship between good corporate governance and pension performance. Wagner *et al.* (1998) found that the probability of firms going under declined with boards controlled by outside directors. Zahra and Pearce (1989) aver that outsiders tend to be objective, unbiased and independent. Other comparable empirical research results supporting the notion that business organizations can and should serve the interests of multiple stakeholders (Preston & Sapienza, 1990: 361) and that such service is associated with higher financial performance (Sisodia, Wolfe and Sheth, 2007), reputation (Fombrun and Shanley, 1990), and organizational performance

(Greenley and Foxall, 1997) were observed. Nevertheless, some studies find conflicting results between social orientation and firm performance (Aupperle, Carroll and Hatfield, 1985; Agle, Mitchell and Sonnenfeld, 1999), and social orientation is often taken as emblematic of "stakeholder orientation". Moreover, mixed and sometimes inconclusive results on the relations between corporate governance and firm performance were also found by scholars such as Daines and Klausner, 2001 (examined takeover defenses), Larcker, *et al.* (2007) (examined board and ownership variables) and Coles, *et al.* (2008) (considered board size). Clarke (2009) observed that corporate governance systems failed to prevent financial crisis and corporate collapses across different economies. Heracleous (2001) reports that researchers failed to find any convincing connection between the best practices in corporate governance and organizational performance. A possible explanation for these results is that there could be other factors influencing the above. Renders *et al.* (2010) attribute it to the differing and limitation of methods of measuring corporate governance and econometric problems.

The relationship between Macroeconomic Variables, Corporate Governance and Combined Return of Pension Funds:

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

The regression analysis of all the macroeconomic factors collaborates the findings of the stepwise regression analysis above. The results on Table 6 shows that R^2 for the overall model was .784 with an adjusted R^2 of .705 indicating a strong size effect of the model. Thus 78.4% of the variation

in the combined ROI of pension funds. is accounted by the regression, a linear combination of the predictor variables corporate governance indicators Board structure and composition, Board Responsibilities, Shareholder's Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions and macroeconomic variables GDP Growth Rate, Inflation rate, unemployment rate, Exchange rate (KS/US\$), Commercial Banks weighted average lending interest rates, CBK 91-Day T Bill, Balance of Payments and NSE 20 Share Index. Study results establish that unlike stepwise analysis, inclusion of all the CG indicators and all macroeconomic variables results in an increase in variation in the combined ROI of pension funds accounted by the regression from 47.1% in model 4 in stepwise regression to 78.4% in model 5 for all the macroeconomic variables.

In addition, the F statistic, the test of the entire regression shows that at $\alpha = .01$ this regression was statistically significant because the p value is < 0.001 . The model was therefore significant in predicting the combined ROI of pension funds. with $F(15, 41) = 9.916$, $p < .001$ shown by the ANOVA (Table 7). The results thus indicate that there is significant regression relationship between the dependent variable and the predictor variables as is indicated by a large F value and a small significance level. This suggests that the null hypothesis was not true, meaning that the 15 predictor variables are not all equal to each other and could be used to predict the dependent variable, combined ROI of pension funds. The relative importance of the independent variables in moderation is judged for by the magnitude of the t statistics. Commercial Banks weighted average lending interest rates ($t = 5.802$, $p < .001$) and CBK 91-Day T Bill ($t = 4.943$, $p < .001$) had a positive but statistically significant effect on the combined ROI of pension funds. In contrast, Inflation rate ($t = -6.790$, $p < .001$), Exchange rate ($t = -6.079$, $p < .001$), Balance of Payments ($t = -5.956$, $p < .001$) and NSE 20 Share Index ($t = -5.713$, $p < .001$) had a negative but statistically significant effect on combined ROI of pension funds. The Role of stakeholders (RS) ($t = 2.277$, $p < .05$) however, was the only factor among the CG indicators which had a statistically significant positive effect on combined ROI of pension funds (Coefficients Table 8).

The results show strong evidence to reject the null hypotheses that the coefficients are equal to each other and that they equal zero (no effect). The study results are in concurrence with the research findings of Chen (1991), Black, Fraser & MacDonald (1997), Muhammad & Rasheed (2002) and Humpe & Macmillian (2007), Mukherjee & Yu (1997) and Kwon & Shin (1999) in developed countries and EME which indicated that real GNP, industrial production, lagged inflation and interest rate influenced stock performance. The established results tend to agree with the fact that macroeconomic factors are influential fiscal, natural, or geopolitical events that broadly affect a regional or national economy. Macroeconomic factors thus tend to impact wide swaths of populations, rather than just a few select individuals. The study findings are in concurrence with the Arbitrage Pricing Theory (APT) of Ross (1976) which postulates that there is an association between expected return of a security and a set of systematic risk factors as well as the study results by Chen (1986); Roll & Ross (1980) which established that factors such as GDP, changes in inflation and interest rates affect expected stock return.

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

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

- a) Commercial Banks weighted average lending interest rates has a significant positive moderating effect on the relationship between CG practices and financial performance of pension plans.
- b) CBK 91-Day T Bill has a significant positive moderating effect on the relationship between CG practices and financial performance of pension plans.
- c) Exchange rate has a significant negative moderating effect on the relationship between CG practices and financial performance of pension plans.
- d) Inflation rate has a significant negative moderating effect on the association between CG practices and financial performance of pension plans.
- e) Balance of Payments has a significant negative moderating effect on the relationship between CG practices and financial performance of pension plans.
- f) NSE 20 Share Index has a significant negative moderating effect on the relationship between CG practices and financial performance of pension plans.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The research investigated the effect of corporate governance and macroeconomic variables on the financial performance of pension funds as indicated by the combined ROI of pension funds for the study period of 2012 to 2020. The paper documents a summary of the findings of the study. In addition, it outlines the drawn conclusions from the tested hypothesis.

Summary of the findings

The study's main objective was to establish the joint effect of corporate governance and macroeconomic variables on the financial performance of pension funds in Kenya for the period 2012 to 2020. The study utilized a set of three variables to investigate the relationship. The combined ROI of pension funds was adopted as the dependent variable, while macroeconomic variables, the moderating factors and corporate governance as the independent variables. Corporate governance was proxied by 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. Macroeconomic factors comprised: GDP Growth Rate, Inflation, Exchange rate (KS/US\$), Commercial Banks weighted average lending interest rate, CBK 91-Day T Bill, Balance of Payments, NSE 20 Share Index and unemployment rate. The study specifically investigated the relationship between corporate governance and combined ROI of pension funds registered by the RBA and the moderating effect of macroeconomic variables on the relationship between corporate governance and the combined ROI of pension funds.

To establish these relationships, below hypothesis were formulated: *i*) H_1 : Corporate governance indicators have a significant relationship with the financial performance of pension schemes; *ii*) H_2 : macroeconomic variables have a significant moderating effect on the relationship between governance and financial performance of pension funds; and *iii*) H_3 : The joint effect of Corporate governance indicators and macroeconomic variables on performance of pension funds was significant.

The first objective of the study was to investigate the relationship between corporate governance and pension fund performance. Regression analysis was used to assess the relationship between the factors. The results reveal that CG has a significant relationship with the combined ROI of pension funds in Kenya. Individual contribution of the CG indicators however varied. The study established that only the Role of stakeholders had a positive and statistically significant effect on the combined ROI of pension funds in Kenya. Board structure and composition, Disclosure and transparency and Stakeholders interests in board decisions revealed a positive but statistically insignificant effect on the combined ROI of pension fund. The other factors comprising Board Responsibilities, Shareholder's Rights and Commitment to Corporate governance showed a negative but statistically nonsignificant effect on the combined ROI of pension fund.

The second objective of the research was to examine the effect of macroeconomic variables on the relationship between corporate governance and financial performance of pension funds. The results suggests that the moderating effect of macroeconomic factors is significant. The results of the stepwise analysis on Table 4 shows that the "R Square Change", which 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. 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 of 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 was statistically significant as indicated in the "Sig. F Change" column ($p < .05$), in all the 3 models. The study results suggests that the macroeconomic variables NSE 20 Share Index, Inflation rate and GDP Growth rate do moderate the relationship between CG indicators and the combined ROI of pension funds.

In addition, the ANOVA results on Table 5 shows that the F statistic, the test of the entire regression shows that at $\alpha = .01$ the regression of the four models are statistically significant because their p values are < 0.001 . 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 analysis also revealed that the moderating effect of all macroeconomic variables on the relationship between CG indicators and the combined ROI of pension funds as indicated by the results on Table 6 shows that R^2 for the overall model was .784 with an adjusted R^2 of .705 indicating a strong size effect of the model. This implies that 78.4% of the variation in the combined ROI of pension funds is accounted by the regression, a linear combination of the predictor variables corporate governance indicators (Board structure and composition, Board Responsibilities,

Shareholder's Rights, Disclosure and transparency, Commitment to Corporate governance, Role of stakeholders and Stakeholders interests in board decisions and macroeconomic variables (GDP Growth Rate, Inflation rate, 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, inclusion of all the CG indicators and all macroeconomic variables, the joint effect results in an 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). Moreover, the F statistic, the test of the entire regression shows that at $\alpha = .01$ this regression was statistically significant because the p value is < 0.001 . The model is therefore significant in predicting the combined ROI of pension funds with $F(15,41) = 9.916$, $p < .001$ shown by the ANOVA (Table 7). The Coefficients Table 8 shows that the study established 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.

Conclusion

The research investigates the relationship between financial performance of pension funds registered by the RBA Corporate governance indicators and macroeconomic variables. The first hypothesis of the research investigated the effect of corporate governance on pension performance proxied by combined ROI of pension fund. The results indicated that the null hypothesis was rejected. Corporate governance indicators thus have a significant relationship with the financial performance of pension schemes. Individual contribution of the CG indicators however varied. Only the Role of stakeholders had a statistically positive and significant effect on the combined ROI of pension fund. This is consistent with the Agency theory of Jensen and Meckling's (1976) which 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). The theory states that the purpose of corporate governance is to reduce agency conflicts between those who control and those who own the residual claims in a firm. Thus, corporate governance as a mechanism helps to align management's goals with those of the stakeholders that are to increase firm performance. The Board Responsibilities therefore should ensure the strategic guidance of the company, effective monitoring of management by the board, and the board's accountability to the company and the shareholders. In concurrence, the IFC (2018) observed that good corporate governance contributes to sustainable economic development by enhancing the performance of companies and increasing their access to outside capital. In addition, it ensures that the companies have proper rules, policies and practices to create long-term shareholder value.

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

The study in addition shows that Board structure and composition, Disclosure and transparency and Stakeholders interests in board decisions revealed a positive but insignificant effect on combined ROI of pension fund. Though insignificant, it is in line with the Agency theory. Agency theorists such as Demsetz and Lehn (1985) prescribe various governance mechanisms including Board structure and composition, Board Responsibilities, Shareholder's Rights and Commitment to Corporate governance, enhancing Disclosure and transparency mechanisms and taking into account Stakeholders interests in board decisions. This harmonizes the interests of the managers and the shareholders to maximize company value (Maher & Andersson, 1999). The former will ensure that timely and accurate disclosure is made regarding the corporation including the financial situation, performance, ownership and governance of the company. This will help in making informed decisions by investors. As for the later it is in line with the stakeholder's theory which stresses the interconnected relationships between various stakeholders who have a stake in the organization and the theory's assumption that businesses can only be considered successful when they deliver value to the majority of their stakeholders. For governance structures, boards of directors keep potential self-serving managers in check by performing audits, performance evaluations and prescribing alternative executive compensation schemes to provide rewards and punishments that are aimed at aligning principal agents' interests. Outside (non-management) board leadership and membership are desirable to ensure that proper management oversight occurs. The study results confirm the hypothesis that corporate governance has a significant effect on the financial performance of pension funds. The study findings on the variables Board structure and composition,

Board Responsibilities, Shareholder's Rights, Commitment to Corporate governance however, show a negative and non-significant effect on the combined ROI of pension fund. The findings imply that there was non-adherence to these governance frameworks by pension funds leading to declined performance of pension funds. 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. The second hypothesis investigated the moderation effect of macroeconomic variables on the relationship between corporate governance and combined ROI of pension funds. The results of the stepwise analysis of the regression indicated that the "R Square Change", which indicates the increase in variation explained by the addition of the interaction term (the change in R^2), was realized in the models 2-4 of 0.073, 0.075, and 0.070 respectively. This implies that the R^2 change in the models 2-4 was 7.3%, 7.5% and 7% respectively, which is the percentage increase in the variation explained by the addition of the interaction variable NSE 20 Share Index in model 2, NSE 20 Share Index and Inflation rate in model 3 and NSE 20 Share Index, Inflation rate and GDP Growth Rate in model 4. The increase is statistically significant as indicated in the "Sig. F Change" column ($p < .05$), in all the 3 models. The study results suggests that the macroeconomic variables, Inflation rate and GDP Growth rate in addition to the factor NSE 20 Share Index, do moderate the relationship between CG indicators and combined ROI of pension funds. The results are collaborated by findings in the ANOVA Table 5 which shows that the F statistic, the test of the entire regression shows that at $\alpha = .01$ the regression of the four models are statistically significant because their p values are < 0.001 . 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 and all Corporate governance indicators, the joint effect collaborates the findings of the stepwise regression analysis above. The results indicate that there is significant regression relationship between the dependent variable and the predictor variables as is indicated by a large F value and a small significance level. This suggests that the null hypothesis was not true, meaning that the 15 predictor variables are not all equal to each other and could be used to predict the dependent variable, combined ROI of pension funds. The results are consistent with those by Chen, Roll and Ross (1986) who tested a set of economic data variables to explain the U.S stock return. They examined the influence of macroeconomic variables term structure, industrial production, risk premium, inflation, market return, consumption and oil prices in the period of Jan 1953- Nov 1984 on stock market return. There findings indicated that several of these economic variables were significant in explaining expected stock return during the tested period. Similar research findings were observed by scholars including Shanken (1982), Brown and Weinstein (1983), Cho, Elton and Gruber (1984), Connor and Korajczk (1986), Burmeister and McElroy (1988), Lehman and Modest (1988). The research findings thus confirm the hypothesis that macroeconomic variables have a significant moderation effect on the relationship between corporate governance and pension performance proxied by combined ROI of pension funds. The results suggest that macroeconomic variables need to be taken into account when making investment decisions as they

influence financial performance of pension funds. This is in line with the Arbitrage Pricing theory which postulates that there is an association between expected return of a security and a set of systematic and unsystematic risk factors. Knowledge of these risk factors is therefore critical in making investment decisions that will affect the performance of pension funds. This confirms that pension funds management should focus on implementing all dimensions of corporate governance and take into account the effect of macroeconomic factors when making investment decisions.

REFERENCES

1. Alduais, Fahd, Nashat Ali Almasria, Abeer Samara, and Ali Masadeh (2022b). Conciseness, Financial Disclosure, and Market Reaction: A Textual Analysis of Annual Reports in Listed Chinese Companies. *International Journal of Financial Studies* 10: 104.
2. Alduais, Fahd, Nashat Ali Almasria, and Rana Airout (2022a). The Moderating Effect of Corporate Governance on Corporate Social Responsibility and Information Asymmetry: An Empirical Study of Chinese Listed Companies. *Economics* 10: 280. [CrossRef]
3. Aluoch M. O., Mwangi C. I., Kaijage E. S., Ogutu M. (2020). The Relationship between Board Structure and Performance of Firms Listed at the Nairobi Securities Exchange, *European Scientific Journal*, edition Vol.16, No.19 ISSN: 1857-7881 (Print) e - ISSN 1857-7431, University of Nairobi, Kenya. Doi:10.19044/esj.2020.v16n19p337 URL:http://dx.doi.org/10.19044/esj.2020.v16n19p337
4. Ambachtsheer, K. P., Capelle, R., Lum, H. (2006). Pension fund governance today: Strengths, weaknesses, and opportunities for improvement, *Financial Analysts Journal*.
5. Andrei S (2000). Inefficient Markets: An Introduction to Behavioral Finance. *Clarendon Lectures in Economics*, p. 145.
6. Antolin P., Schich S., and Yamo Y. (2011). The Economic impact of protracted low interest rates on pension funds and insurance companies. *OECD Journey: Financial Markets Trends*, Vol. 2011, -Issue1.
7. Antolin, P., and Stewart F. (2009). Private pensions and policy responses to the financial and economic crisis, *OECD Working Papers on Insurance and Private Pensions* No. 36. Organisation for Economic Co-operation and Development, Paris.
8. Asher, M. and Nandy, A. (2006). Reforming provident and pension fund regulation in India. *Journal of Financial Regulation and Compliance*.
9. Afsar, Aslı, and Emine Karaçayır. 2020. Effect of Investment and Financing Decisions on Firm Value; Example of Bist Industrial Index. *Usak University Journal of Social Sciences* 13: 13–24.
10. Balagobei, S., (2018). Corporate governance and Firm Performance: Empirical Evidence from Emerging Market. *Asian Economic and Financial Review*, 8(12), 1415–1421. <https://doi.org/10.18488/journal.aefr.2018.8.12.1415.1421>
11. Baron, R.M., and Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations, *J Pers Soc Psychol*. 51(6): 1173-82.
12. Bebchuk, L.A and Weisbach, M.S. (2010). The state of corporate governance research. *Review of Financial Studies*. 23 (3) 939-961.
13. Besley, T. and Prat, A. (2005). Pension fund governance and the choice between Defined Benefit and Defined Contribution plans. *CEPR Discussion Paper* No. 3955.

14. Bhagat, S., and B. Black. (2002). The non-correlation between board independence and long-term firm performance, *Journal of Corporation Law* 27,23 1-274.
15. Blake, D., B. Lehmann and A. Timmermann. (1999). Asset allocation dynamics and pension fund performance. *Journal of Business* 72, 429-461.
16. Bodie, Z. (1990b). Pension funds and financial innovation, *Financial Management*, 11-21.
17. Chan, K.C., Karceski, J., and Lakonishok, J. (1998). The risk and return from factors, *Journal of Financial and Quantitative Analysis*, 33, 159-188.
18. Chandra S (2003). Regional Economy Size and the Growth-Instability Frontier: Evidence from Europe". *J. Reg. Sci.*, 43(1): 95-122. doi:10.1111/1467-9787.00291.
19. Chen, Y. & Liang, B. (2005). "Do market timing hedge funds time the market? 2005 Moscow meeting paper.
20. Clare, A. D. and Thomas, S. H., 1994. "Factors, the APT and the UK Stock Market", *Journal of Business Finance and Accounting*, vol.21, pp. 309-330.
21. Conyon, M. J., and D. Leech (1993), "Top Pay, Company Performance and Corporate Governance", *Warwick Economic Research papers* 410, Warwick University.
22. Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approach* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
23. Faccio, M. and M.A. Lasfer. (2000), 'Managerial Ownership, Board Structure and Firm Value: The UK Evidence', Working Paper.
24. Fama, E. F., and Jensen M., C. (1983a). Agency problems and residual claims. *Journal of Law and Economics*, 26(2): 327-49.
25. Freeman R. E. , Harrison J. S. , Wicks A. C. , Parmar B. L. (1985). *Stakeholder Theory: The State of the Art*
26. Flannery, M.J. and Protopapadakis, A.A. (2002). factors do influence aggregate stock returns, *Review of Financial Studies*, 15, 751-782.
27. Fosberg, R. H., (1989). Outside directors and managerial monitoring, *Akron Business and Economic Review* 20,24-32.
28. Freeman, E.: 1984. *Strategic Management: A Stakeholder Approach* (Pitman, Boston).
29. Government of Kenya, (1997). *The Retirement Benefits Act, No. 3 of 1997.*
30. Harley Tega Williams (2018). An empirical investigation of the impact of exchange rate fluctuations on the performance of selected listed firms in Nigeria, *Journal of Business Management and Economic Research* Vol.2, Issue.3, 2018 pp.1-10
31. Heracleous, L. (2001). What is the impact of corporate governance on organizational performance? *Corporate Governance: An International Review* 9,165-173.
32. Hinz, R., Rudolph, H., Antolin, P., and Yermo, J. (2010). Evaluating the financial performance of pension funds. *The World Bank, Washington.*
33. Humpe, A., and Macmillan, P. (2007). Can variables explain long term stock market movements? A Comparison of the US and Japan, University of St Andrews.
34. Jensen, M.C. and K.J. Murphy. (1990), 'Performance Pay and Top-Management Incentives', *Journal of Political Economy* 98 (2), 225-264.
35. Jensen, M.C., and Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*. 3, 305-360.
36. John H.B., Ross L. and Bruce D.S. (2001). The impact of inflation on financial sector performance. *Journal of Monetary Economics*, Volume 47, Issue 2, Pages 221-248.
37. Kobuthi Edward, K'Obonyo Peter, Ogutu Martin (2015). Corporate Governance and Performance of Firms Listed on the Nairobi Securities Exchange. *International Journal of Scientific Research and Management (IJSRM)*, Volume 06, Issue 01. Available: <www.ijrsm.in ISSN (e): 2321-3418>57.47, (2016):93.67, DOI: 10.18535/ijrsm/v6i1.em02
38. Kane, C., & Palacios, R. (1996). The implicit pension debt. *Finance and Development*, 33(2), 36-38.
39. Kaplan, S.N. and D. Reishus. (1990), 'Outside Directors and Corporate Performance', *Journal of Financial Economics* 27 (2), 389-410
40. Kwon, C.S., and Shin, T.S. (1999). Co-integration and causality between variables and stock market returns. *Global Finance Journal*, 10 (1), 71-81.
41. Lishenga, L. (2011). Corporate governance reaction to declining firm performance: Evidence from the NSE. *International Journal of Governance*, 1, 1.
42. Maher, M. and Andersson T., (2000). *Corporate Governance: Effects on Firm Performance and Economic Growth, Convergence and Diversity of Corporate governance Regimes and Capital Markets*, Oxford University Press, 2000.
43. Malik, U., Khan, A., and Tanveer, S. (2016) An empirical analysis of corporate governance and firm value: Evidence from KSE-100 Index, Department of Management Sciences, University of Haripur, Pakistan.
44. Manuel, A., and Andreas, Z. (2008). Performance and governance of Swiss pension funds University of St. Gallen, Swiss Institute of Banking and Finance, Rosenberg Strasse 52, 9000 St. Gallen, Switzerland.
45. Mansell S. (2013) *Capitalism, Corporations and the Social Contract: A Critique of Stakeholder Theory*. Cambridge: Cambridge University Press.
46. Maysami, R.C. and Koh, T.S. (2000) A Vector Error Correction Model of the Singapore Stock Market. *International Review of Economics and Finance*, 9, 79-96. [http://dx.doi.org/10.1016/S1059-0560\(99\)00042-8](http://dx.doi.org/10.1016/S1059-0560(99)00042-8)
47. Mehran, H. (1995), 'Executive Compensation Structure, Ownership and Firm Performance', *Journal of Financial Economics* 38 (2), 163-184.
48. Mei Yu, 2013. State ownership and firm performance: Empirical evidence from Chinese listed companies. *China Journal of Accounting Research*, Volume 6, Issue 2, June 2013, Pages 75-87.
49. Melville, R. and Merendino, A. (2019). The Board of Directors and Firm Performance: Empirical Evidence from Listed Companies. *Corporate Governance*, 19(3), pp.508-551. doi: 10.1108/Corporate Governance-06-2018-0211
50. Michael Y., and Andras T. (2019). Does Exchange Rate Matter in Profitability of Listed Companies in South Africa? An Empirical Approach. *International Journal of*
51. Ochieng, D. E., and Oriwo, E. A. (2012). The relationship between variables and stock market performance in Kenya. *DBA Africa Economic Review*, Vol 3 (1), 38-49.
52. OECD (2009). OECD guidelines on pension fund asset management. *OECD Working Papers on Insurance and Private Pensions* 8, OECD Publishing, Paris, France.
53. Olweny, T. and Omondi, K. (2011). The effect of factors on stock return volatility in the Nairobi stock exchange, Kenya. *Economics and Finance Review*, 1(10), 34 - 48. Available online at <http://www.businessjournalz.org/efr>
54. Ongore V. O., and Kusa G. B. (2013). Determinants of Financial Performance of Commercial Banks in Kenya, *International Journal of Economics and Financial Issues*, Vol. 3, No. 1, pp.237-252.
55. Ongore, V. O., and Kobonyo, P. (2011). Effects of selected corporate governance characteristics on firm performance. Empirical evidence from Kenya. *International Journal of Economics and Financial Issues, Eco Journals*, 1(3), 99-122.
56. John and Senbet (1998). Corporate governance and board effectiveness. *Journal of Banking & Finance*, Volume 22, Issue 4, Pages 371-4