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The Determinants of regulatory compliance among insurance companies in Kenya.

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THE DETERMINANTS OF REGULATORY COMPLIANCE AMONG INSURANCE COMPANIES IN KENYA

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DECLARATION

I declare that this dissertation has not been previously presented and authorized for the award of a degree by this or any other institution of higher education. As far as I know and believe, the proposal does not include any content that has been previously published or authored by someone else, unless proper acknowledgment is given in the thesis itself.

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Approval

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DEDICATION

I dedicate this dissertation to my dear parents, Peter and Mercy Wainaina, whose love, support, and encouragement have been my greatest source of strength throughout my life.

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ABSTRACT

The increasing incidence of fines and penalties imposed on insurance companies in Kenya for non-compliance has raised concerns about their financial stability and ability to meet client obligations. This study investigates the key determinants of regulatory compliance within Kenya's insurance sector, focusing on ownership structure, board composition, and firm size. While prior studies have shown mixed results on the influence of these factors, this research adds clarity by examining them within the Kenyan context. Guided by agency theory and stakeholder theory, the study adopted a positivist philosophical stance and employed an explanatory research design based on secondary data from the Insurance Regulatory Authority (IRA) and published financial records. The analysis revealed that ownership structure and board composition significantly influence regulatory compliance among insurance companies. In contrast, firm size had no notable effect. Additional factors such as company age, leverage, and the range of insurance classes offered also played varying roles in compliance behavior. The findings underscore the critical role of ownership concentration and board independence in enhancing regulatory compliance within the Kenyan insurance sector. The study reveals that higher ownership concentration fosters greater oversight and accountability, while independent boards are better positioned to ensure adherence to regulatory standards. Based on these findings, insurance firms are encouraged to optimize their ownership structures and strengthen board independence to improve compliance. Policymakers are urged to introduce incentives for concentrated ownership and to enhance regulations promoting board independence, ensuring stronger corporate governance across the sector. This study contributes to the broader discourse on regulatory compliance by emphasizing the significance of governance frameworks in shaping compliance behavior within the insurance industry.

Keywords: Regulatory compliance, Insurance companies, Corporate governance, Ownership structure, Board composition, Leverage, Kenya, Agency theory, Stakeholder theory.

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ABBREVIATIONS AND ACRONYMS

IRA: Insurance Regulatory Authority

AIG: American Investment Group

USA: United States of America

SEC: Securities and exchange commission

ROA: Return on Assets

ROE: Return on Equity

VIF: Variance Inflation Factor

DEFINITION OF TERMS

Admitted Assets:	Assets acknowledged and approved by state insurance regulations for assessing the solvency of insurers and reinsurers (Insurance Information Institute, 2024).
Board structure	The composition and structure of a company's or organization's board of directors. It outlines the structure of the board regarding the number of members, their duties, and the diversity of their skills and backgrounds. (Pathan & Skully, 2012)
Ownership structure:	The proportional distribution of ownership claims possessed by both management and investors who do not directly participate in the firm's management (Jensen & Meckling, 1976).
Regulatory compliance	Behavior fitting expectations communicated to regulatees regarding how the former should or should not behave in a given domain (Dunbar, Keyes, & Browne, 2023)

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The insurance industry plays a critical role in any economy. Primarily, insurance companies promote financial stability (Das, Davies, & Podpiera, 2003). They do this by allowing firms and households to transfer financial and economic risks to an entity better equipped to withstand them. In addition, insurance businesses are among the largest investors in an economy (Haiss & Sümegi, 2008). This is because they accumulate large reserves of funds from premiums which they need to invest to ensure they can meet future claims and obligations. Moreover, various empirical studies have established a strong correlation between the development of the insurance sector and economic growth. Arena (2008) found that the insurance sector propels economic growth by facilitating more effective risk management and domestic savings. Cristea et al (2014) found a strong association between the insurance market, indicated by its penetration rate, and economic growth, as assessed by GDP per capita.

1.1.1 Regulatory compliance among insurance companies in Kenya

Regulation can be defined as sustained and focused control exercised by a public agency over activities which are valued by a community (Selznick, 1985). Given the significance of the insurance sector in the economy, its regulation has become imperative for two main reasons. First, regulation of the insurance sector is important to promote stability in the financial system. Schwarcz & Schwarcz (2014) note that insurance businesses pose systemic risks due to their scale, similarities and correlations in insurance products, investment strategies, risk exposures, risk management approaches, and financial system linkages. A materialization of an industry-wide risk in the insurance sector would have serious ramifications on the economy. The situation of the American Insurance Group (AIG) during the financial crisis exemplified this, as the United States Federal Government intervened to rescue the company and avert further destabilization of the financial system (Egginton, Hilliard, Liebenberg, & Liebenberg, 2010).

Secondly, regulation of the insurance sector is important to protect policy holders. Insurance clients pay premiums in advance with a promise of protection against potential risks (Swedloff,

2020). Collection of premiums in advance allows insurance companies invest these proceeds in securities and generate investment income in the short term. This arrangement can create an urge for some insurance companies to invest a huge portion of their premiums in short term securities to maximize profits. This could potentially limit their financial capacity to pay out claims should several risks materialize at once. In the long term, insurance companies profit in the event the risks do not materialize and do not have to pay out claims to their clients. As such, insurance companies would be looking to reduce claim payout at any cost to also maximize their long-term profits. Both these scenarios would be neglecting the fundamental commitments of the insurance policy. To curb this opportunism, government regulatory bodies are put in place to oversee insurers' marketing practices, pricing strategies, investment of premiums, and claims processing (Swedloff, 2020).

Companies show they're following the rules when their actions match the guidelines set by governing bodies for their industry. A core part of this is that they must stick to established benchmarks and fix any problems. (Dunbar, Keyes, & Browne, 2023). In Kenya, the Insurance Regulatory Authority, or IRA, is in charge of watching over, controlling, and helping the insurance industry grow, all based on the Insurance Act Cap. 487. This means that all insurance companies in Kenya are legally required to follow every single rule in that law. (Insurance Regulatory Authority, 2023).

The Insurance Act Cap. 487 outlines several critical regulatory provisions. It sets requirements for licensing insurers and intermediaries, ensuring compliance with minimum capital requirements. Additionally, it provides mandates for financial oversight of insurers, including regulations on solvency margins, asset management, and auditing practices. The act stipulates specific dates for the submission of audited and unaudited accounts to enforce these regulations. Furthermore, it ensures policyholder protection by mandating timely claim settlements and establishing a policyholders' compensation fund to safeguard claimants in the event of insurer insolvency. Insurers are obligated to remit contributions to this fund within prescribed periods, with penalties and potential liability for directors if contributions are not made on time (Insurance Regulatory Authority, 2023).

Despite the existence of stringent regulatory requirements in the Kenyan insurance sector, a concerning trend has emerged. Over the past three years, there has been a notable increase in the number of fines imposed on insurance firms for non-compliance with the Insurance Act (Alushula, 2024). This rise in regulatory breaches includes failures to pay claims, late

submission of financial records, and delayed payment of statutory levies, such as remittances to the policyholders' compensation fund. These issues have raised concerns about the stability of many insurance firms and have contributed to growing customer dissatisfaction, particularly with delayed and unpaid claims (Alushula, 2024).

The severity of these breaches is highlighted by the significant number of fines levied in recent years. For instance, in 2022, failure to pay claims accounted for a substantial portion of the total fines imposed (Insurance Regulatory Authority, 2023). Furthermore, several insurance companies have been placed under administration due to breaches of capital adequacy and solvency ratios. Companies such as Blue Shield Insurance, Invesco Assurance, Resolution Insurance, Concord Insurance, and Standard Assurance Kenya have faced such actions. This trend underscores the challenges faced by the regulatory body in ensuring compliance and maintaining consumer trust in the insurance sector (Alushula, 2024).

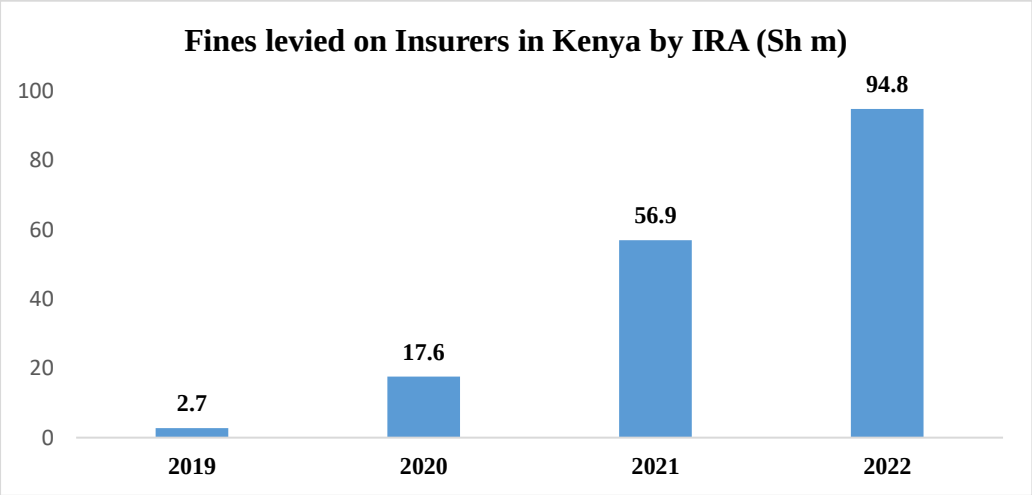

Figure 1.1: Fines levied on insurance companies in Kenya by the Insurance Regulatory Authority.

Source: Insurance Regulatory Authority of Kenya

The increasing trend of regulatory non-compliance among insurance companies in Kenya underscores the need to comprehend the underlying drivers of compliance. Previous studies have highlighted several factors that influence compliance among businesses, including ownership structure, board composition, and firm size. Understanding these factors is essential for developing effective regulatory strategies that promote compliance and ensure the stability of the insurance sector. By examining these elements, policymakers can better address the challenges facing the industry and foster an environment conducive to compliance.

1.1.2 Ownership structure and regulatory compliance

The proportionate allocation of ownership claims held by investors and management who do not directly engage in the firm's management is referred to as the ownership structure. (Jensen & Meckling, 1976). Ownership concentration exacerbates compliance risks when dominant shareholders prioritize short-term gains over capital adequacy, as seen in Blueshield Insurance's prolonged insolvency despite regulatory interventions (Nation Media Group, 2020). In the Kenyan insurance sector, it is notable that insurance companies that have had high cases of non-compliance, and that have also been placed under administration, have had individuals as the most prominent shareholders. For example, Xplico insurance faced ownership wrangles among its two biggest individual shareholders (Nation Media Group, 2020).

Several facets of ownership structure, such as ownership concentration, ownership structure, and family ownership, have been examined in earlier research, and with how they affect disclosures and compliance. In their study, Bajo et al (2009) focusing on the determinants of regulatory compliance in corporate organizations in Italy found that the degree of regulatory compliance was significantly higher for companies with a higher level of ownership concentration. On the other hand, Liang, Lin, & Hsiao (2023) in their study examining the nexus between governance and compliance of financial institutions in Taiwan discovered that the penalty for regulatory non-compliance increases with larger shareholder concentration. These findings were also similar to those of Tanjung (2023) in her study investigating the determinants of corporate governance compliance among firms in Indonesia.

On ownership structure, Liang et al. (2023) found that foreign institutional shareholding had no profound relationship on regulatory compliance. However, Barako et al. (2006) found that institutional holdings and voluntary disclosures were positively correlated in their study on factors affecting voluntary disclosures by Kenyan enterprises. On family ownership, Tanjung (2023) found that family-owned businesses have low levels of compliance. Bajo et al (2009), on the other hand, found that family-owned enterprises exhibit greater adherence to regulatory compliance than non-family firms.

Previous studies have highlighted the significance of ownership forms in influencing regulatory compliance across various sectors. In the context of Kenyan insurance businesses, it is crucial to evaluate how different ownership structures impact compliance with regulatory

requirements. Understanding these dynamics is essential for developing targeted strategies that enhance compliance and ensure the stability of the insurance sector. By examining the relationship between ownership forms and regulatory compliance, policymakers can better address challenges and foster an environment that supports adherence to regulatory standards.

1.1.3 Board structure and regulatory compliance

The way a company's board is put together, often called its structure, involves different aspects that define who sits on it. Pathan and Skully (2012) pinpointed key factors that shape this structure, such as how many members are on the board, how many are independent, and whether the CEO also chairs the board. In Kenya, board independence, though mandated (requiring one-third independent directors), remains nominal in practice, as boards lacking actuarial or financial expertise-common in smaller insurers like Madison Life and Directline-fail to align capital strategies with risk-based thresholds (Kiptoo, 2022).

Previous studies have explored how these factors relate to various aspects of a company, including its performance, how it manages risks, and its compliance. In their research, Liang et al. (2023) discovered that good corporate governance, with board structure being the most important part, positively impacts compliance. They concluded that companies with poor corporate governance are more likely to break the rules. Barako et al. (2006) found that board independence, measured by the proportion of outside directors to the total number, negatively correlated with how much information a company voluntarily shared.

However, their study had a limitation: even if directors are not company employees, they might not be truly independent and could have connections with management or other shareholders. Wang and Hsu (2013), in their study on board composition and operational risk in financial institutions, found no statistically significant link between the number of independent directors and operational risk incidents. They also discovered that the likelihood of operational risk events had a U-shaped relationship with board size. This suggests that monitoring and control increase as the board gets larger. However, after a certain point, the effectiveness of oversight and the quality of decisions start to decrease.

Prior literature has demonstrated a correlation between board structure and compliance. Various studies indicate that board characteristics such as size, independence, and leadership structure influence regulatory adherence. Larger boards may enhance oversight, but

excessively large boards could reduce decision-making efficiency. Independent directors are expected to strengthen governance, though their effectiveness depends on true independence. This study aims to analyze how board structure affects regulatory compliance among insurance companies in Kenya.

1.1.4 Size of the organization

Previous research has measured business size using a variety of financial indicators. These comprise market-based indicators like market capitalization as well as accounting-based measurements like total assets and total revenue (Bhagat, Bolton, & Lu, 2015). In Kenya, firm size mediates compliance capacity through economies of scale: larger insurers leverage diversified portfolios and stable cash flows to maintain solvency margins, while smaller firms (e.g., Monarch, Corporate Insurance) face disproportionate challenges in meeting the Sh600 million minimum capital requirement, contributing to 23 insurers' Sh32.2 billion collective capital shortfall in 2023 (Alushula, 2024).

In their research on the factors influencing Indian non-life insurers' regulatory compliance, Noronha & Khawani (2016) totaled the insurer's acknowledged assets to determine business size. When assessing the solvency of insurers and reinsurers, admitted assets are those that are acknowledged and approved by state insurance legislation (Insurance Information Institute, 2024). Company size has a detrimental impact on non-life insurance businesses' regulatory compliance in India, according to research by Noronha & Khawani (2016). It seemed to be the case that the harder it is to police general compliance, the larger the insurer.

However, Barako et al (2006) examined the size of the company in relation to its total assets. They discovered a favorable correlation between size and voluntary disclosure procedures. The implication was that bigger businesses could afford to make voluntary disclosures more readily. Furthermore, the impact of business size, corporate governance quality, and negative news on disclosure compliance was examined by Johnstone et al. (2010). They used the market value of equity to calculate the size of the company. They discovered that the size of the firm has no discernible bearing on the disclosure obligations. Their primary conclusion was that business size shouldn't be used as a justification for avoiding firm disclosure obligations.

Based on the studies above, firm size has been demonstrated to be a factor influencing compliance and disclosures. While some studies suggest that larger firms struggle with

regulatory compliance due to the complexity of their operations, others indicate that they have more resources to meet compliance and disclosure requirements. The relationship between firm size and compliance appears to be influenced by various factors, including governance structures, industry regulations, and market expectations. Additionally, different measurement approaches, such as total assets, market capitalization, and revenue, may yield varying results regarding the impact of firm size on regulatory adherence. Given these mixed findings, it is necessary to assess how firm size influences regulatory compliance among insurance companies in Kenya, considering both financial indicators and governance structures.

1.2 Problem Statement

The stability of insurance companies is critical to policyholders as the ability to pay claims hinges on the financial well-being of the insurer (Pavić Kramarić, Miletić, & Kožul Blaževski, 2019). In addition, Rubio-Misas & Fernández-Moreno (2017) note that the stability of insurance companies is a crucial component of the overall stability of the financial system of any economy. In Kenya, a worrying trend has emerged over the last three years that threatens the stability of the insurance sector in the country. The financial year 2022 marked the third straight year of rising fines and the number of insurance companies being penalized for non-compliance with regulatory requirements. This trend has raised significant concerns about the stability of these firms, casting doubt on their ability to meet their obligations. Consequently, millions of customers are increasingly worried, particularly as complaints about delayed or unpaid claims continue to mount in this already challenging environment.

Studies conducted in the past investigating how different factors influence regulatory compliance have had contradictory findings. On the ownership structure, Bajo et al. (2009) found that compliance with regulatory disclosures increases with higher levels of concentrated ownership. On the other hand, Liang et al. (2023) found that sanctions for non-compliance is higher when shareholding concentration is higher. On company size, Noronha & Khawani (2016) found that firm size negatively impacts regulatory compliance, positing that larger companies face greater challenges in maintaining overall compliance. However, Barako et al. (2006) found that firm size was positively related with voluntary disclosure practices, the premise being that larger companies have a greater financial capacity to enforce disclosure practices. Many of these studies conducted have had a different methodology of measuring regulatory compliance with most of them using fines and penalties levied for non-compliance

as the main measure of non-compliance. Furthermore, the studies have been conducted in different geographies with different regulatory requirements.

Given these contradictions, there is a need for further research to provide clarity on the nature of the relationship of these determinants and regulatory compliance in the context of the Kenyan insurance sector. To address some of the reasons of the contradictions, this study utilized a regulatory compliance index, similar to the one developed by Charumathi & Nithya (2014) as a different methodology of measuring non-compliance. Furthermore, the study focused on Kenya, a different geographical location than where other studies were conducted. Therefore, the aim of this study was to conduct an empirical analysis of how various factors, such as ownership structure, board structure and firm size as identified by prior studies, influence regulatory compliance. By doing so, this study sought to bridge the evidence gap that exists in existing literature while providing valuable insights to regulators and policymakers in Kenya on how best to enhance regulatory compliance among insurance companies.

1.3 Research Objectives

1.3.1 General Objectives

The general objective of this study was to establish the determinants of regulatory compliance among insurers in Kenya.

1.3.2 Specific Objectives

i. To evaluate the effect of ownership structure on regulatory compliance among insurers in Kenya
ii. To evaluate the effect of board structure on regulatory compliance among insurers in Kenya
iii. To evaluate the effect of firm size on regulatory compliance among insurers in Kenya

1.3.3 Research Questions

i. What is the effect of ownership structure on regulatory compliance among insurers in Kenya?
ii. What is the effect of board structure influence regulatory compliance among insurers in Kenya?

iii. What is the effect of firm size on regulatory compliance among insurers in Kenya?

1.4 Scope of the study

As of 2024, the Insurance Regulatory Authority (IRA) had registered 63 insurance companies in Kenya, including 5 reinsurance firms, 35 general insurance providers, and 23 life insurance entities. This study focused on all licensed insurers in Kenya, employing data sourced from the Kenyan insurance regulator. The study period spanned from 2014, when the Insurance (Amendment) Act, (No. 1), 2014 and the Finance Act, (No. 38), 2013 were enacted, implementing a range of insurance regulations, to 2022, which is the latest period for which full financial year data is available. The geographical focus of the study was Kenya, where there has been a rising number of instances of non-compliance among insurance companies.

1.5 Significance of study

This study is anticipated to yield benefits for a diverse range of stakeholders, including insurance regulators, researchers, academic scholars, and insurance companies themselves. The findings of this research are expected to provide critical insights into the determinants of regulatory compliance within the insurance sector. These insights will serve as a valuable foundation for informed decision-making, facilitating policy adjustments and guiding future research initiatives. By shedding light on the factors influencing compliance, this study aims to contribute to the development of more effective regulatory frameworks and enhance the overall governance of the insurance industry.

1.5.1 Insurance regulators

Regulatory bodies play a crucial role in ensuring that insurance companies operate within the legal and ethical frameworks established to protect policyholders and maintain market stability. This study could be valuable to regulators by identifying key factors influencing compliance and highlighting challenges insurers face in meeting regulatory requirements. By understanding these factors, regulators can design and implement more effective policies, ensuring that compliance measures are both practical and enforceable. Additionally, the findings may guide the development of targeted interventions to address gaps in compliance, enabling the formulation of policies that are adaptive to the industry's evolving landscape. A

well-structured regulatory framework, informed by empirical evidence, can enhance consumer confidence, reduce systemic risks, and promote sustainability in the insurance sector.

1.5.2 Researchers and Academic Scholars

This study contributes to academic discourse by providing empirical evidence on the relationship between firm characteristics and regulatory compliance in the insurance sector. It addresses existing gaps in literature by offering insights into how factors such as ownership structure, firm size, and governance quality influence compliance behavior. The study's findings may help reconcile conflicting results from previous research, offering a more refined perspective on regulatory adherence within financial institutions. Additionally, this research could serve as a reference point for future studies, encouraging further investigation into compliance determinants across different financial sectors. By laying a foundation for future academic exploration, this study expands knowledge on corporate governance and regulatory compliance, fostering interdisciplinary research in finance, economics, and law.

1.5.3 Insurance companies

Insurance firms stand to benefit from this study by gaining a deeper understanding of the factors affecting their compliance with regulations. The insights derived from the research could help insurers develop more effective internal policies and governance structures that enhance compliance, minimize regulatory risks, and improve overall operational efficiency. Additionally, the study could provide insurers with evidence-based arguments for engaging regulators in discussions about refining regulatory requirements to better suit industry realities. This could facilitate a more balanced approach to regulation—one that maintains oversight while allowing flexibility based on firm-specific characteristics. Furthermore, compliance with regulatory standards not only mitigates financial and legal risks but also strengthens the reputation and competitiveness of insurance firms in the market.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section reviews relevant studies on regulatory compliance in Kenyan insurance, covering theoretical foundations, prior empirical findings on factors like ownership and board structure, and identifies research gaps. It also presents a conceptual framework and details how variables will be measured.

2.2 Theoretical Framework

To understand what drives Kenyan insurance companies to follow regulations, this research uses two main ideas: Agency Theory and Stakeholder Theory. By using both, the study aims to see how internal company management and outside pressures from stakeholders work together to ensure compliance. This combined approach allows for a more detailed look at both the company's internal workings and its external surroundings, providing a clearer picture of what influences regulatory compliance.

2.2.1. Agency Theory

This theory examines challenges that emerge in corporations due to the division between ownership and management, emphasizing strategies to alleviate these concerns (Panda & Leepsa, 2017). In most organizations, particularly large firms such as insurance companies, shareholders (principals) entrust managers (agents) with decision-making responsibilities. However, conflicts of interest may arise when managers prioritize personal gains over shareholders' interests, leading to inefficiencies, increased operational risks, or non-compliance with regulations. This misalignment of interests, known as the agency problem, has made agency theory one of the most influential frameworks in finance and economic literature.

Agency theory can be dated back to the 18th century. In his book, The Wealth of Nations, Adam Smith predicted that if an organization is overseen by individuals or a collective who are not the actual owners, there exists a possibility that they will not act in the owners' best interests (Smith, 1776). In the 20th century, several scholars continued exploring the agency

problem. Berle & Means (1932) examined the ownership structures of significant corporations in the United States. They noted that the operations were predominantly managed by personnel distinct from the proprietors. They hypothesized that these individuals, who in this case were the agents, would use the firms property for their own benefit, which would create the conflict between the owners, in this case the principal, and the agents. Other scholars such as Wilson (1968) and Arrow (1971) looked at the agency problem from a lens of risk. They argued that the owners of the company, the principals, took a risk to gain economic benefits through investing in the company. However, management, the agents, exhibit risk aversion due to their focus on optimizing personal benefits.

Jensen and Meckling (1976) provided a foundational study on agency theory. They defined an agency relationship as a contract where one or more parties (the principals) designate another party (the agent) to carry out a service on their behalf, giving the agent some degree of decision-making authority. If both parties are rational and aim to maximize their utility, the agent is unlikely to behave in the principal's best interest. To reduce the instances of the agent acting against their wishes, the principal has to incur agency costs. The proponent define agency costs as the aggregate of the monitoring expenses borne by the principal, the bonding costs incurred by the agent to ensure non-harmful actions towards the principal, and the residual loss, which represents the welfare loss to the principal resulting from the divergence of interests between the principal and the agent. Jensen and Meckling (1976) assert that conflicts of interest stemming from the agency relationship can be mitigated by managerial ownership and control.

Subsequent studies that have emerged have looked at how to minimize the conflict that arises from the agency relationship. Fama (1980), notes that an efficient market resolves the agency problem. This is done through a wage revision process where past performance of top executives is used to determine their compensation. Top executives are always incentivized to deliver in their current roles to unlock higher compensation levels in subsequent years. As such, there will always be incentivized to maximize shareholder value as this increases their compensation. Grossman & Hart. (1986) note that the principal's consumption is influenced by the agent's output. Consequently, principals seek an elevated degree of exertion from management. To motivate the agent to operate in their best interest, Grossman & Hart. (1986), propose an optimal incentive structure to regulate the agent's behavior and assure alignment with the principal's interests.

In conclusion, agency theory provides a framework for understanding the challenges that arise when management and boards, acting as agents, fail to act in the best interests of the owners, or principals. In the context of regulatory compliance, non-compliance by managers can have severe negative consequences for the principals. These include legal penalties, fines, and reputational harm to the organization, which can reduce profitability and subsequently decrease returns to shareholders. Additionally, regulatory breaches can lead to increased regulatory scrutiny and a loss of trust among investors and customers, potentially diminishing the company's market value.

The agency theory plays a pivotal role in this study by informing the analysis of how board composition, as agents acting on behalf of the owners, influences regulatory compliance. Furthermore, the theory helps in understanding whether a concentrated ownership structure, characterized by minimal shareholder dispersion, can mitigate agency conflicts and enhance regulatory compliance. By examining these dynamics, this study aims to provide insights into how organizational structures can be optimized to align the interests of agents and principals, thereby promoting compliance and long-term value creation.

While agency theory provides a valuable framework for analyzing the dynamics between principals and agents, it has limitations when applied to complex regulatory environments like the insurance sector in Kenya. The theory assumes that all actors are rational and self-interested, which may oversimplify real-world behavior where decisions are also influenced by ethics, culture, and institutional constraints. Additionally, agency theory places strong emphasis on financial incentives and monitoring mechanisms to align interests, potentially neglecting other motivators such as organizational culture, professional norms, or regulatory pressures.

In the context of regulatory compliance, the theory does not fully capture the role of external actors such as regulators, auditors, or public interest groups, who may exert significant influence on agent behavior beyond what the principal can directly control. Therefore, while agency theory offers a strong internal governance lens, it may be insufficient in isolation to fully explain compliance behavior in a highly regulated and stakeholder-sensitive environment like the insurance industry.

2.2.2. Stakeholder Theory

According to Freeman (1984), a stakeholder is anyone who can affect or be affected by what a company does. Stakeholder theory argues that companies should be accountable to all their stakeholders, not just their shareholders. This means a company needs to consider the interests and well-being of everyone who can influence or be influenced by its activities, such as employees, customers, suppliers, investors, local communities, and regulatory bodies (Gilbert & Rasche, 2008). The idea of stakeholders has been thoroughly examined in past studies, with Freeman's 1984 work being particularly influential. He divided stakeholders into two main categories: primary and secondary. Primary stakeholders, like shareholders, customers, employees, and local communities, are directly affected by a company's actions and are essential for its continued operation. Secondary stakeholders, such as regulatory agencies, competitors, and community groups, aren't directly impacted but can still influence the company.

Fassin (2009) further developed stakeholder theory by suggesting a three-level classification: real stakeholders, stake watchers, and stake keepers. Real stakeholders have legitimate claims, power, and influence over the company, and the company has an ethical obligation to them. Stake watchers, while not directly invested, act as representatives for real stakeholders, often advocating for things like consumer rights, environmental protection, and shareholder interests. Stake keepers are independent regulators, including government bodies, courts, regulatory agencies, and the media. They enforce external rules and regulations without having a direct stake in the company, but their actions can indirectly affect the company's responsibilities.

Donaldson and Preston (1995) categorized stakeholder theory into three distinct perspectives: descriptive, instrumental, and normative. The descriptive approach aims to explain how companies actually manage their relationships with stakeholders. The instrumental approach looks at how companies can use stakeholder management to achieve their business goals, often focusing on how engaging with stakeholders can improve performance.

The normative approach focuses on ethical considerations, arguing that companies have a moral duty to consider the interests of all stakeholders, not just shareholders, emphasizing fairness, justice, and respect for human rights in decision-making. It advocates for equitable and just treatment of all stakeholders impacted by a company's activities, including employees, consumers, suppliers, communities, and the environment. The normative approach prioritizes

ethical values over profitability, asserting that corporations should generate value for stakeholders while engaging with them respectfully and with integrity. By doing so, it provides a framework for ethical corporate governance that extends beyond financial returns to encompass broader social responsibilities.

The Stakeholder Theory serves as a foundational framework for understanding regulatory compliance among insurance companies in Kenya. Regulations and regulatory bodies exist to guarantee that corporations prioritize the interests of all stakeholders, rather than solely those of their owners. As such, they can be classified as secondary stakeholder playing the role of the stake keeper. The normative approach of the stakeholder theory emphasizes that companies have ethical obligations to account for the welfare of all stakeholders, rather than solely shareholders, in their decision-making processes. This ethical obligation is crucial in ensuring that insurance companies in Kenya adhere to regulations, not just to avoid legal penalties but to maintain trust and legitimacy among their stakeholders. The stakeholder theory relates to the independent variable of regulatory compliance by providing a basis of why companies may choose to comply with regulations, highlighting the role of ethical considerations, stakeholder pressure, and the pursuit of long-term sustainability.

Despite its broad ethical appeal, stakeholder theory faces criticism for its lack of clear prioritization among stakeholder groups, which can lead to ambiguity in decision-making. The theory assumes that companies can balance competing interests equitably, but in practice, it can be difficult to satisfy all stakeholders simultaneously, especially when their demands conflict. Additionally, the normative foundation of stakeholder theory, while ethically compelling, is often criticized for being idealistic and lacking the prescriptive power to guide concrete managerial actions.

In the context of regulatory compliance, the theory does not explicitly define mechanisms through which stakeholder influence translates into compliance behavior, making it less actionable for policy formulation or organizational strategy. Moreover, in jurisdictions with weak regulatory enforcement or limited stakeholder activism, the practical influence of secondary stakeholders—such as regulators—may be reduced, limiting the theory's explanatory power. Hence, while stakeholder theory enriches the ethical and external dimensions of compliance, it may require supplementation with more operational frameworks for practical application.

2.3 Empirical Review

Several empirical studies have been conducted investigating the nexus between ownership structure, board composition and firm size and how they influence different aspects of the firm including regulatory compliance, financial performance and risk-taking tendencies in insurance companies. In the subsequent subsection, we highlight an empirical review of the determinants that this study focused on and trying to establish how they influence regulatory compliance among insurance companies in Kenya.

2.3.1 Ownership Structure

This study examined ownership concentration as a key element of ownership structure, which previous research has identified as a crucial factor in influencing regulatory compliance. Ownership concentration refers to the extent to which shares are held by large shareholders who have significant control over firm decisions. In highly concentrated ownership settings, dominant shareholders may actively monitor managerial behavior, thereby promoting regulatory compliance to safeguard their investments. On the other hand, firms with dispersed ownership structures may be more vulnerable to agency problems, where managers have greater autonomy and may not prioritize adherence to regulatory requirements. While ownership structure as a broader concept includes factors such as institutional ownership or foreign shareholding, the current study specifically focuses on ownership concentration. Prior studies that concentrated on other dimensions of ownership structure serve as a gap this research addresses.

Bajo et al. (2009) conducted a study on corporate organizations in Italy, analyzing factors influencing regulatory compliance with insider trading disclosure rules. Their findings indicated that higher ownership concentration increases the likelihood of regulatory compliance. However, their study was limited in scope, focusing on general corporate compliance among publicly listed companies and not specifically addressing the insurance sector or its unique regulatory requirements such as capital adequacy and claims settlement. The current study bridges this gap by focusing specifically on the insurance industry in Kenya and applying a comprehensive compliance index tailored to sector-specific regulations.

Liang et al. (2023) investigated the relationship between corporate governance and regulatory compliance among financial institutions in Taiwan. While their findings showed that

governance positively influences compliance, this relationship weakened as shareholder concentration increased. Notably, shareholder concentration was treated as a moderating variable, rather than as a direct independent factor influencing compliance. In contrast, the current study treats ownership concentration as a primary variable to evaluate its direct effect on regulatory compliance, offering a more focused analysis.

Tanjung (2023) explored corporate governance compliance among publicly listed firms in Indonesia and found that concentrated ownership was negatively associated with internal governance compliance. While insightful, the study examined internal governance policies rather than external regulatory mandates. The current study addresses this gap by concentrating on external regulatory compliance as mandated by Kenyan regulatory bodies, which includes broader concerns such as solvency requirements, consumer protection, and financial reporting.

Barako et al. (2006) analyzed voluntary corporate disclosures in Kenyan firms and found that shareholder concentration was inversely related to voluntary disclosure levels. While they also noted that broader ownership structure positively influenced voluntary disclosure, the study did not focus on regulatory compliance. Since voluntary disclosure is optional and driven by reputational incentives, it differs fundamentally from regulatory compliance, which is legally binding. This highlights a gap in literature that the current study addresses by investigating how ownership concentration influences compliance with mandatory regulations in the insurance sector.

Overall, while prior research provides valuable insights into various aspects of ownership structure, most studies either focus on different contexts (e.g., governance compliance, voluntary disclosure) or treat ownership concentration as a secondary or moderating factor. This study contributes to the literature by directly examining ownership concentration and its impact on regulatory compliance, within the specific regulatory environment of Kenyan insurance companies.

2.3.2 Board Structure

Pathan and Skully (2012) identified board size, independence, and CEO duality as fundamental components of board structure, emphasizing their influence on corporate governance and regulatory compliance. Their study highlighted the importance of these structural factors in enhancing transparency and oversight within organizations. Building on this foundation, the

current study focuses on four key board characteristics—board size, independence, gender diversity, and foreign representation—to investigate how they influence regulatory compliance among insurance companies in Kenya. The inclusion of gender diversity and foreign representation reflects a growing recognition that diverse boards improve monitoring, strategic decision-making, and ultimately, adherence to regulatory requirements.

Zulfikar et al. (2020) examined Indonesian banks and found that larger, more independent boards were positively associated with compliance to internal corporate governance policies. However, their study focused on internal policy adherence rather than externally imposed regulatory obligations. This represents a critical gap, as the current study emphasizes external regulatory compliance, which is not voluntary and typically involves adherence to government-imposed standards with legal consequences for non-compliance.

Paniagua, Rivelles, and Sapena (2018) conducted a global study and observed a negative relationship between board size and financial performance, suggesting that larger boards may create inefficiencies. However, their research concentrated on financial optimization and profitability outcomes. The current study diverges by focusing on regulatory compliance—a non-financial aspect crucial for long-term sustainability and legal operation—rather than on maximizing financial returns.

Elamer et al. (2018) explored board dynamics in UK insurance companies and found that larger boards were associated with reduced risk-taking, while board independence had a negligible negative impact on firm behavior. While the findings offer insight into board-related risk governance, the study did not directly address regulatory compliance. This distinction is significant because risk management behavior and compliance with regulatory mandates are related but distinct dimensions of corporate governance.

Wang and Hsu (2013) investigated operational risk in financial institutions, identifying a U-shaped relationship between board size and operational risk. However, they reported no significant relationship between independent directors and operational risk. Importantly, the study did not examine regulatory compliance as an outcome variable, thus limiting its relevance to the current research, which seeks to establish a direct link between board composition and regulatory adherence.

Isidro and Sobral (2014) focused on European firms and found that female board representation was positively correlated with ethical and social compliance, indirectly enhancing corporate

value. While their findings suggest the broader benefits of gender diversity, their focus on firms operating in environments with legislated gender quotas differs markedly from the Kenyan context, where such policies are less prescriptive. The current study explores how gender diversity functions in a regulatory landscape with different institutional and cultural dynamics.

Alfraih (2016) reported that board size and gender diversity positively influenced compliance with mandatory financial disclosures among Kuwaiti firms. While disclosure is a component of regulatory compliance, the study narrowly addressed financial reporting. The current study broadens the lens to include a wider range of compliance areas such as capital adequacy, solvency, and claims settlement—areas particularly critical to the insurance sector. Similarly, Khan and Rehman (2020) linked board diversity to operational liquidity in Pakistani firms, focusing on financial outcomes. The present research extends beyond financial performance to assess regulatory compliance, offering a different dimension of organizational accountability.

2.3.3 Firm Size

Firm size is a significant organizational characteristic that can influence regulatory compliance practices. In this study, firm size is measured by total assets, which is considered a reliable and stable indicator of an organization's scale and resource capacity. Larger firms are often assumed to possess the financial and administrative resources necessary to comply with complex regulatory frameworks. However, some researchers argue that the increased complexity and bureaucracy in larger firms may hinder compliance. This study investigates the influence of firm size, as measured by total assets, on regulatory compliance among insurance companies in Kenya.

Charumathi and Nithya (2014) conducted a study assessing regulatory compliance among Indian life insurers using a compliance index based on the Indian insurance regulator's norms. They found that firm size negatively and significantly affected compliance levels, suggesting that larger firms might face more challenges adhering to regulations. While their measure of firm size also relied on total assets, the study's regulatory context differs from that of Kenya. The present study addresses this gap by constructing a regulatory compliance index tailored to the standards of the Insurance Regulatory Authority of Kenya, offering a localized and sector-specific perspective.

Barako, Hancock, and Izan (2006) investigated voluntary disclosure practices among Kenyan firms, using total assets as a proxy for firm size. Their findings revealed a positive relationship between firm size and the extent of voluntary disclosures, indicating that larger firms tend to disclose more information. However, their study focused on voluntary, non-mandatory disclosures, while the present study examines regulatory compliance, which involves legal requirements with potential penalties for non-compliance. This distinction emphasizes the higher stakes involved in regulatory adherence compared to voluntary reporting.

Johnstone, Stone, and Wang (2010) explored how company size, governance quality, and adverse news impact disclosure compliance among U.S. publicly listed firms. They used market capitalization as a measure of firm size, a metric that reflects investor perception rather than actual organizational scale. Their results showed no significant relationship between firm size and disclosure compliance. Since the present study uses total assets instead of market capitalization, it provides a more grounded assessment of firm size's influence, particularly in the context of insurance firms operating in a developing regulatory environment.

Chambers, McLaughlin, and Richards (2022) analyzed the impact of regulatory growth on firms of different sizes, focusing on how regulatory burdens disproportionately affect smaller businesses. Their findings suggested that increased regulation reduces the number of firms and employment among smaller enterprises. However, their analysis did not directly assess regulatory compliance but rather the macroeconomic effects of regulatory expansion. Additionally, firm size was examined broadly without specific financial indicators. In contrast, the present study measures firm size using total assets and directly links it to compliance behavior in the insurance sector.

Qiu, Shaukat, and Tharyan (2016) examined environmental and social disclosures among FTSE350 firms, assessing whether such disclosures were linked to profitability and market value. They found that larger firms, particularly those with greater financial capacity, were more inclined to provide social disclosures. However, firm size in their study was not clearly defined using total assets, and their focus was on voluntary ESG-related disclosures rather than regulatory obligations. The current research addresses this gap by using total assets as a precise measure of firm size and examining legally mandated regulatory compliance in the Kenyan insurance industry.

While Chambers et al. and Qiu et al. offer important insights into how firm size influences disclosure or regulatory impact, their studies either used alternative size proxies or examined outcomes unrelated to regulatory compliance. By using total assets and focusing specifically on adherence to external regulatory standards, this study offers a more focused understanding of how firm size affects compliance in a regulated financial services context.

2.3.4 Regulatory Compliance

Kitaka, Kiragu, and Marwa (2018) investigated the role of government regulation in the sustainability of Kenyan insurance firms. Employing a descriptive research design, they collected data from 30 insurance companies through structured questionnaires. The study found that government regulation positively influences capital adequacy, management capability, and sensitivity to risk, though it had no significant effect on asset quality. The authors recommended that the Insurance Regulatory Authority (IRA) incorporate sustainability and management indices into Risk-Based Capital (RBC) measurement tools to enhance regulatory effectiveness.

Samwel (2009) conducted an evaluative study on the effectiveness of state regulation in Kenya's insurance sector. The research highlighted key challenges such as inadequate enforcement, political interference, and lack of autonomy within regulatory bodies. These issues contributed to ethical lapses, insolvency, and reduced public trust in insurance firms. The study underscored the need for a more autonomous and proactive regulatory framework to ensure compliance and protect policyholders.

Kiptoo et al. (2021) explored the relationship between corporate governance structures and financial performance among Kenyan insurance companies. Using regression analysis on data from 51 firms, the study found that robust corporate governance practices, particularly board independence and effective oversight, significantly enhance financial performance. The findings imply that strong governance mechanisms are crucial not only for financial performance but also for achieving higher levels of regulatory compliance.

Kajwang (2020) examined how government policies and regulatory frameworks affect the growth of Kenya's insurance industry. The study emphasized that regulatory bodies are essential for maintaining financial system stability and ensuring compliance. However, it also noted that overly restrictive regulation could hinder innovation and industry growth. The author

recommended a collaborative approach in which regulators and industry stakeholders co-develop policies that support both compliance and development.

Ng'ang'a (2016) focused on the regulatory challenges faced by micro-insurance providers in Kenya. The study revealed that current insurance regulations, primarily developed for conventional insurance models, often limit the growth of micro-insurance due to a mismatch in regulatory requirements. This mismatch impedes access to insurance for low-income groups. The study advocated for regulatory reforms tailored specifically to accommodate the unique characteristics of micro-insurance.

Koima (2003) analyzed broader regulatory challenges within Kenya's insurance industry. These included limited analytical capacity within regulatory agencies, insufficient autonomy, and low public awareness of insurance benefits. The study recommended building the capacity and independence of regulators, as well as enhancing public education, to promote regulatory compliance and restore consumer trust in the sector.

2.4 Summary of empirical review findings

The reviewed empirical literature provides insights into the factors influencing regulatory compliance among firms, particularly in the insurance sector. Table 2.1 summarizes key findings from previous studies, highlighting the relationships between ownership structure, board structure, firm size, and compliance. The table also identifies gaps in existing research, such as the limited focus on industry-specific regulatory requirements and the varying impact of governance mechanisms across different contexts.

Table 2.1: Summary of literature gaps

Author	Title	Findings	Research gaps	How the study fills the gap
Bajo, et al (2009)	The Determinants of Regulatory Compliance: An analysis of Insider Trading Disclosures in Italy	The research demonstrated that elevated ownership concentration enhances the likelihood of a firm's regulatory compliance.	The study did not focus on insurance companies that have certain regulatory compliance obligations.	The present study employed a compliance index that considers the fundamental regulations insurance businesses in Kenya are required to adhere to.
Liang, Lin, & Hsiao (2023)	Compliance and governance: evidence from financial institutions in Taiwan	The analysis revealed a favourable correlation between governance and compliance; however, this correlation diminishes with increased shareholder concentration.	The research examined shareholder concentration as a moderating variable influencing the nexus between governance and compliance.	This study examined shareholder concentration as an independent variable and its effect on regulatory compliance.
Tanjung (2023)	Determinants of corporate governance compliance: what matters and what does not?	The research demonstrates that increased concentrated ownership correlates with diminished corporate governance compliance.	The research concentrated on adherence to corporate governance standards.	This study concentrated on regulatory compliance.
Barako, Hancock, & Izan (2006)	Factors Influencing Voluntary Corporate	The research demonstrates that shareholder concentration is	The research exclusively concentrated on voluntary disclosures.	This study concentrated on compliance with obligatory regulations established by governing authorities.

Author	Title	Findings	Research gaps	How the study fills the gap
	Disclosure by Kenyan Companies	inversely related to voluntary disclosure policies.		
Pathan & Skully (2012)	Endogenously Structured Boards of Directors in Banks	The study indicates size, independence and CEO duality as core determinants of board structure.	The focus of the study is assessing the determinants of board boards of directors for a sample of 212 US bank holding companies.	This study aimed to examine the impact of board size, board independence, gender diversity and foreign composition on regulatory compliance.
Zulfikar, et al., (2020)	Corporate Governance Compliance in Banking Industry: The Role of the Board	The research demonstrates that an increased board size positively correlates with adherence to corporate governance standards.	This research concentrated on adherence to corporate governance standards.	The current study focused on regulatory compliance.
Paniagua, Rivelles, & Sapena (2018)	Corporate governance and financial performance: The role of ownership and board structure	The research demonstrates that the size of the board is negatively related with financial performance.	The study concentrated on proactive and growth-oriented corporate financial performance.	The current study concentrated on regulatory compliance, characterized by its reactive and risk-averse nature.
Elamer et al. (2018)	The corporate governance–risk-taking nexus: evidence from insurance companies	The research indicated a negative relationship between board size and risk-taking behaviour.	The primary dependent variable in this study is risk-taking tendencies.	The present study emphasizes compliance with legal criteria to reduce risks and prevent penalties.

Author	Title	Findings	Research gaps	How the study fills the gap
Wang & Hsu (2013)	Board composition and operational risk events of financial institutions	The research identified a U-shaped correlation between the board size and the probability of operational risk incidents.	The study examined the probability of operational risk occurrences occurring.	The present study examines the obligatory regulatory compliance for enterprises.
Maharjan (2019)	Corporate Governance and Financial Performance of Insurance Companies in Nepal	The research identifies an inverse correlation between board size and financial success of insurers in Nepal.	The study concentrates on financial performance influenced by the firm's internal goal of profit maximization.	The present analysis concentrated on regulatory compliance and the safeguarding of the company's stakeholders.
Isidro & Sobral (2014)	The Effects of Women on Corporate Boards on Firm Value, Financial Performance, and Ethical and Social Compliance	The research revealed no direct correlation between heightened female presence on boards and corporate value. Nonetheless, it demonstrated that female board members are positively correlated with ethical and social adherence, which subsequently enhances corporate value	The research concentrated on European firms that have legally mandated quotas for female presence on boards	This study concentrated on Kenya, where there are no mandatory requirements for female board involvement
Alfraih (2016)	The effectiveness of board of directors' characteristics in mandatory disclosure compliance	The research identified a positive relationship among board size, gender diversity, and compliance	The study exclusively examined the effect of board features on obligatory disclosure compliance, excluding other variables such as	This study examined additional factors that may affect compliance, including ownership structure and corporate characteristics.

Author	Title	Findings	Research gaps	How the study fills the gap
			ownership structure and firm attributes.	
Khan & Rehman (2020)	Impact of corporate governance compliance and board attributes on operating liquidity in pre- and post-corporate governance reforms	The findings indicated that board characteristics, including the number of foreign board members and gender diversity, significantly impacted operating liquidity	This study concentrated on operating liquidity, which is a financial indicator	The current study examines regulatory compliance, a non-financial aspect essential for a firm's welfare
Charumathi & Nithya (2014)	Level of Regulatory Compliance of Indian Life Insurers & Its Determinants	The research indicated that the size of the life insurer negatively and considerably influences the level of regulatory compliance.	The research employed a regulatory compliance index derived from Indian regulations for life insurers, which differ from the regulatory standards in Kenya.	The present study employed a regulatory compliance index derived from regulations established by Kenyan authorities.
Barako, Hancock, & Izan (2006)	Factors Influencing Voluntary Corporate Disclosure by Kenyan Companies	The research indicated a favourable correlation between size and the level of voluntary disclosure policies.	The study concentrated on voluntary disclosures.	This study concentrated on government-mandated regulatory compliance.
Johnstone, Stone, & Wang (2010)	The Effects of Firm Size, Corporate Governance Quality, and Bad News on Disclosure Compliance	It was determined that firm size is not a significant determinant influencing disclosure requirements.	The research focused on disclosure compliance and targeted publicly traded companies across several industries in the United States.	This study examined the regulatory compliance requirements in Kenya's insurance business.

Author	Title	Findings	Research gaps	How the study fills the gap
Chambers, McLaughin, & Richards (2022)	Regulation, entrepreneurship, and firm size	The research indicated that a 10% rise in industry-specific regulatory leads to a 0.5% decline in the total number of enterprises, irrespective of size, while causing a 0.6% fall in employment solely within small firms	The research examined the impact of regulatory expansion on companies of differing scales	This study examined the impact of business size on a company's capacity to comply with regulatory obligations.
Qiu, Shaukat, & Tharyan (2016)	Environmental and social disclosures: Link with corporate financial performance	The results demonstrate that companies with greater social disclosures generally possess higher market valuations, although no substantial correlation was seen between environmental disclosures and profitability	This study focused on environmental and social disclosures, which are optional for the firm to provide	This study concentrated on regulatory compliance, a legal obligation for corporations

Source; Researcher (2025)

2.5 Conceptual Framework

This research seeks to identify the determinants of regulatory compliance among insurance companies in Kenya. The dependent variable, regulatory compliance, was measured using a regulatory compliance index, similar to the one developed by Charumathi & Nithya (2014). The independent variables included ownership structure, board structure, and firm size, including firm size. Additional factors, such as company age, leverage position, and the type of insurance offered such as life, general, or composite insurance, were considered as control variables.

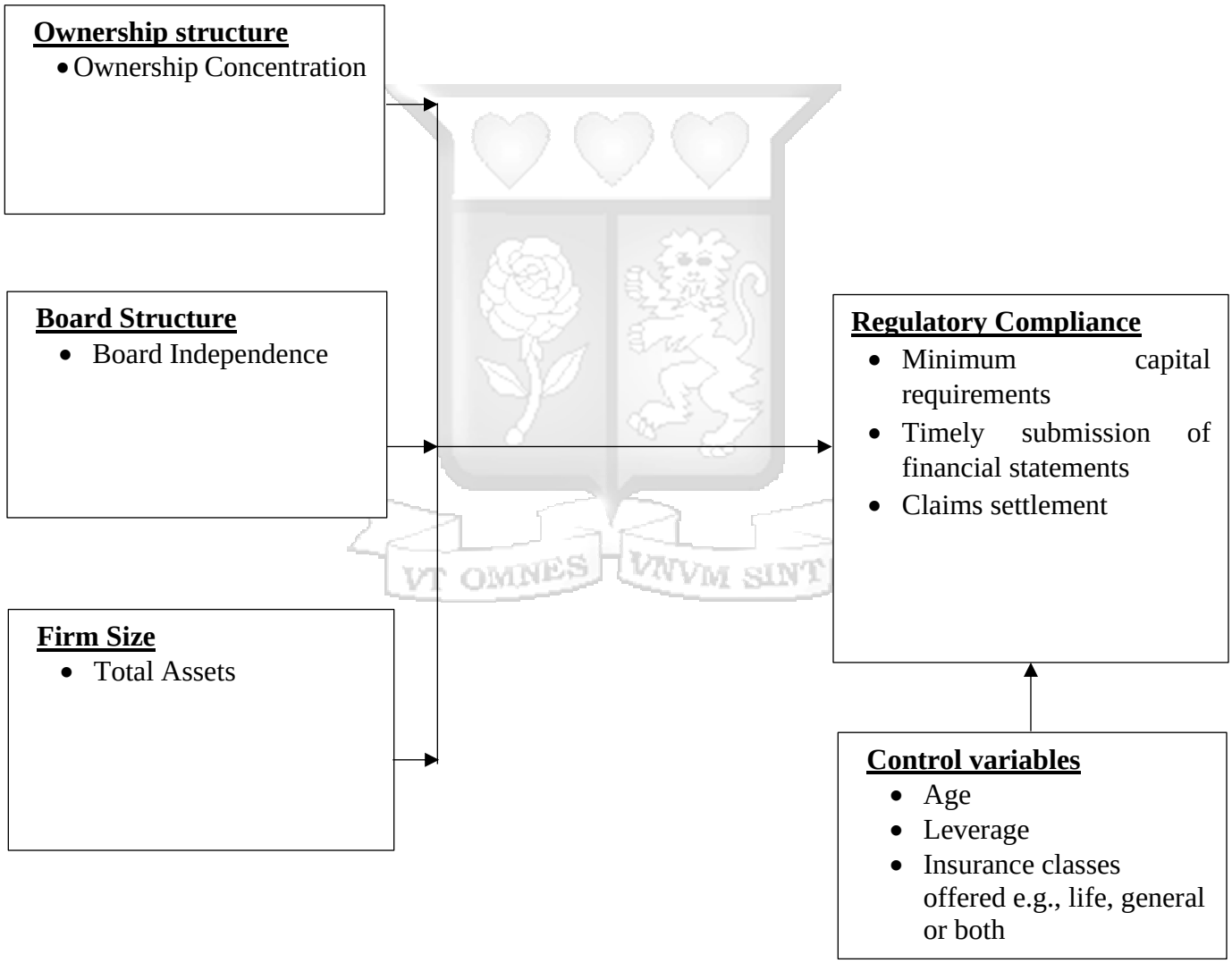

Figure 2.1: Conceptual framework

Source: Researcher (2025)

2.6 Operationalization of variables

The operationalization of each variable, designed to assess the correlation between the dependent and independent variables, is detailed in the table below. The sub-variables for each construct were derived from relevant literature, ensuring that the measurement approach aligns with established research frameworks. This methodological consistency allows for a robust examination of the relationships between regulatory compliance and its potential determinants, such as ownership structure, board structure, and firm size. By grounding the operationalization in existing literature, the study enhances the validity and reliability of its findings.

Table 2.2: Operationalization of variables

Variable	Indicator	Measure	Database Source
Ownership structure **(Independent)**	Ownership concentration	Percentage of equity owned by the top five shareholders	Company's CR 12
Board Structure **(Independent)**	Board Independence	Percentage of independent directors to total number of directors	Company's annual reports
Firm size **(Independent)**	Size	Company's total assets	IRA
Control variables	Age	Duration of the company's activity since its incorporation	Company's CR12
	Leverage	Debt to equity ratio	IRA
	Insurance classes offered	Number of insurance services provided by the company	IRA
Regulatory compliance **(Dependent)**	Regulatory compliance index	Index of minimum capital requirements, timely submission of financial statements and claims settlement	IRA

Source; Researcher (2025)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology used in the study, detailing the approach taken to investigate regulatory compliance among insurance companies in Kenya. It discusses key aspects such as research philosophy, design, data sources, sampling methods, and data collection techniques. Additionally, the chapter explains the analytical procedures applied to examine the relationship between ownership structure, board structure, firm size, and regulatory compliance.

3.2 Philosophical assumptions

Research philosophy refers to the foundational beliefs and assumptions that guide researchers in their approach to inquiry, influencing the choice of research methods and the interpretation of results. It encompasses various paradigms, including positivism, interpretivism, and pragmatism, each reflecting different perspectives on the nature of reality and knowledge (Mkansi & Acheampong, 2012). It shapes how researchers conceptualize their studies, determine what constitutes valid knowledge, and understand the relationship between the researcher and the researched.

Positivism is grounded in the belief that the social sciences can be studied with the same rigor as the natural sciences. It emphasizes the use of quantitative methods, such as surveys and statistical analysis, to generate objective, generalizable data (Mkansi & Acheampong, 2012). Positivists assert that knowledge is derived from observable phenomena and that researchers should maintain emotional neutrality and objectivity to avoid bias in their findings. This approach seeks to identify causal relationships and predict outcomes based on empirical evidence.

In contrast, interpretivism posits that human behaviour is complex and cannot be fully understood through quantitative measures alone (Mkansi & Acheampong, 2012). Instead, it advocates for qualitative methods, such as interviews and participant observations, to explore the meanings individuals attach to their experiences. Interpretivists argue that knowledge is socially constructed

and subjective, emphasizing the importance of context and individual perspectives in understanding social phenomena. This approach rejects the notion of a single objective reality, suggesting instead that multiple interpretations exist based on individual experiences.

Pragmatism is a research philosophy that emphasizes practical consequences and real-world applications as the primary basis for understanding knowledge and truth (Mkansi & Acheampong, 2012). Unlike positivism and interpretivism, which represent more rigid philosophical stances, pragmatism advocates for a flexible approach that integrates both qualitative and quantitative methods based on the specific research questions at hand. This paradigm recognizes that complex social phenomena require diverse methodological approaches to capture their multifaceted nature effectively

This study will adopt positivism as its main philosophical assumption guiding the exploration of determinants of regulatory compliance among insurance companies in Kenya. Positivism, as a research paradigm, emphasizes the importance of observable phenomena and relies on empirical data derived from measurable variables. This approach is particularly relevant to the current study, which employed secondary data to analyse compliance behaviours based on set metrics.

3.3 Research Design

This research aimed to understand how ownership, board structure, and company size influence regulatory compliance, using an explanatory research design to pinpoint cause-and-effect connections. Data was gathered and analyzed to test hypotheses about these relationships, with quantitative methods like regression analysis used to measure the strength and importance of these connections. By using this design, the study seeks to both find the critical factors affecting compliance and explain the reasons behind their influence, providing practical information for regulatory policies and company management in Kenya's insurance sector.

3.4 Population and Sampling

The research targeted 63 insurance companies, which represents the entire population, formally licensed by the IRA between 2014 and 2022. This includes 33 insurers offering general insurance, 20 providing long-term (life) insurance, 3 insurers handling both long-term and general insurance

business, 1micro-insurer and 5 re-insurance companies. The selection of data starting from 2014 is based on the enactment of significant regulations, specifically the Insurance (Amendment) Act, 2014 and the Finance Act, 2013, which introduced a range of insurance regulations. The data encompasses the year 2022, as it represents the latest period for which comprehensive financial year information is accessible.

3.5 Data Collection Methods

The study primarily used secondary data for data collection. For compliance metrics, it relied on published reports from the IRA, which detail fines and penalties levied on insurance companies for breaches such as non-payment of claims, late submission of financial statements, and non-payment of statutory levies. Moreover, insurance businesses must present quarterly financial accounts to the authority, offering insights into their adherence to solvency margins and minimum capital requirements.

The study utilized CR12 forms to obtain detailed information regarding ownership structure and board composition, outlining the owners and directors of enterprises operating in Kenya. These forms, issued by the Business Registration Service (BRS) under the Office of the Attorney General, serve as official records of company ownership and governance structures. They are publicly accessible through formal requests to the Government of Kenya (Government of Kenya (GoK), 2015) and provide critical insights into shareholder concentration, board independence, and corporate control. Additionally, metrics related to firm size were sourced from published annual reports from the Insurance Regulatory Authority (IRA), which document key financial indicators such as total assets, gross written premiums, and market share. These reports offer a reliable basis for evaluating the scale and financial standing of insurance companies, which are essential in analyzing their regulatory compliance behaviors.

3.6 Research Quality

The quality of this study was ensured through validity and reliability, which are essential for producing accurate and credible findings. Validity ensures that the research effectively measures what it is intended to measure, while reliability guarantees that the study's results remain consistent and reproducible over time. By employing rigorous data collection methods, using well-

documented secondary data sources, and ensuring consistency in measurement criteria, the study will enhance both internal and external validity as well as overall reliability. These measures will help minimize errors, reduce bias, and improve the overall credibility of the research findings. Ultimately, maintaining high research quality will strengthen the study's contribution to understanding regulatory compliance among insurance companies in Kenya.

3.6.1 Validity

Research validity refers to the extent to which a study accurately measures what it intends to measure, ensuring that the findings genuinely reflect the phenomena under investigation (Repke et al, 2024). It encompasses various dimensions, including construct validity, content validity, and criterion validity, which collectively assess whether the research design and methods effectively capture the intended variables and relationships. In this study, validity was maintained through rigorous data collection methods and careful selection of secondary data sources. By ensuring that the data used was relevant and representative of the regulatory environment, it enhanced both internal and external validity. This approach facilitated accurate conclusions regarding compliance behaviors and their determinants, thereby contributing to reliable insights for policymakers and stakeholders in the insurance sector.

3.6.2 Reliability

The ability of a research method to consistently produce the same results over time is known as research reliability, which is essential for ensuring dependable and repeatable findings (Kamper, 2019). In this study, which examines what drives regulatory compliance in Kenyan insurance companies, reliability will be maintained by carefully choosing well-established and recognized secondary data sources. Using consistent measurement standards across all data points and established datasets will reduce inconsistencies and improve the reliability of the study's conclusions. This careful method will not only increase the credibility of the findings but also make it easier for future studies to replicate them, leading to a more solid understanding of compliance in the insurance industry.

3.7 Data Analysis

The study's dependent variable is the extent of regulatory compliance among insurance companies in Kenya. This was based on a regulatory compliance index that encompasses a range of regulatory requirements prescribed by the Insurance Regulatory Authority. This is consistent with the study that was done by (Charumathi & Nithya, 2014). A variety of independent variables have been considered in assessing their impact on Kenyan insurance companies' regulatory compliance levels. These include ownership structure, board composition and firm size. The empirical data model that was applied is as follows:

$$\text{Regulatory Compliance}_{it} = \beta 0 + \beta_1(\text{Ownership Structure})_{it} + \beta_2(\text{Board Structure})_{it} + \beta_3(\text{Firm Size})_{it} + \beta_4(\text{Age})_{it} + \beta_5(\text{Leverage})_{it} + \beta_6(\text{Insurance Classes Offered})_{it} + \epsilon_{it}$$

Where:

- Regulatory Compliance$_{it}$: The dependent variable representing the regulatory compliance index for company *i* at time *t*.
- Ownership Structure$_{it}$: An independent variable measured by the percentage of equity owned by the top five shareholders.
- Board Structure$_{it}$: An independent variable measuring board independence for company *i* at time *t*.
- Firm Size$_{it}$: An independent variable measuring total assets for company *i* at time *t*.
- Age$_{it}$, Leverage$_{it}$, Insurance Classes Offered$_{it}$: Control variables representing the duration of the company's activity since its incorporation, the debt to equity ratio, and the number of insurance services provided by the company, respectively.
- β_0: Coefficients estimating the effect of each variable on regulatory compliance.
- ϵ : The error term capturing other unobserved influences at time t.

3.7.1 Data Aggregation

Data aggregation was performed to summarize key variables for the years 2014 through 2022, enabling a comprehensive analysis of how different factors influence regulatory compliance in Kenyan insurance companies. Ownership structure was operationalized through ownership

concentration, defined as the average proportion of equity held by the top five shareholders over the study period for each company, thereby capturing the degree of control exercised by dominant shareholders and its potential influence on regulatory compliance. Board structure was operationalized through board independence measured by the proportion of independent directors on the board for each company in each year, given its established association with enhanced oversight and stronger regulatory adherence.

Firm size was assessed using the average total assets of each insurer throughout the study period, recognizing that larger firms may possess greater financial resources to support compliance with regulatory requirements. To ensure consistency with the other variables, which were measured as percentages, total assets were normalized by expressing them as a percentage of the total assets of all firms in the study for each year. This conversion allowed total assets to be directly comparable to the other variables, such as ownership concentration and board independence, both of which were measured as percentages. By doing so, the resulting value represented the relative size of each firm within the dataset, ensuring that all variables were expressed on a common scale, thereby facilitating more meaningful comparisons and analyses across firms.

To retain the panel nature of the dataset, the Regulatory Compliance Index was calculated annually for each insurer based on three key compliance indicators aligned with the Insurance Regulatory Authority (IRA) benchmarks: minimum capital requirements, payment of claims, and timely submission of financial statements. Each compliance criterion was binary scored, where a score of 1 indicated that the insurer met the regulatory requirement in a given year, and a score of 0 indicated non-compliance. The annual compliance score for each firm was then summed and normalized to a 0–100% scale by dividing the total score by the maximum possible score of 3 and multiplying by 100.

For example, if an insurer in 2016 satisfied the minimum capital requirement and submitted financial statements on time but delayed in paying claims, their raw score would be 2 out of 3, resulting in a normalized compliance score of $(2/3)\times100=66.7\%(2/3) \times 100 = 66.7\%(2/3)\times100=66.7\%$. In another case, an insurer that complied with only one indicator (say, meeting capital requirements but failing on the other two) would have a score of $(1/3)\times100=33.3\%(1/3) \times 100 = 33.3\%(1/3)\times100=33.3\%$ for that year.

This method preserved variation across both firms and years, capturing fluctuations in regulatory behavior and allowing for the use of panel data regression techniques such as fixed-effects and random-effects models. It ensured that insurers who improved or deteriorated in compliance over time were appropriately reflected in the analysis, making the final model more dynamic and representative of real-world compliance patterns.

3.8 Diagnostic tests

To ensure the robustness of the statistical models used in this study and to confirm that they meet the necessary assumptions for panel data analysis, several diagnostic tests were conducted. These tests are crucial for validating the regression models and ensuring they are reliable and free from biases.

Unit Root Test: The unit root test is used to determine whether the panel data is stationary. If the data is not stationary, it could lead to unreliable regression results. The null hypothesis of this test suggests the presence of a unit root (i.e., the data is non-stationary), and the alternative hypothesis suggests the data is stationary. A p-value below 0.05 allows us to reject the null hypothesis, confirming that the data is stationary. In this study, the panel data on ownership structure, board structure, firm size, and regulatory compliance were all found to be stationary at the 5% significance level, making the data suitable for further analysis.

Multicollinearity: Multicollinearity refers to the situation where independent variables are highly correlated, which can make it difficult to isolate the individual effect of each variable. To detect multicollinearity, the Variance Inflation Factor (VIF) was calculated. A VIF value above 10 indicates a significant multicollinearity problem. In this study, all VIF values were below 10, suggesting that multicollinearity was not an issue and the variables were not excessively correlated with one another.

Heteroscedasticity: Heteroscedasticity occurs when the variance of the errors in the regression model is not constant across the different levels of an independent variable. This violates one of the key assumptions of regression analysis. The Breusch-Pagan test was conducted to check for heteroscedasticity. The test results indicated no significant evidence of heteroscedasticity,

implying that the variance of errors remained consistent across observations, which supports the reliability of the regression model.

Autocorrelation: Autocorrelation is when the errors in a regression model are correlated across observations, which is often a concern in time-series data. However, in panel data, autocorrelation can still be a concern if errors are correlated within the same unit across time. The Durbin-Watson (DW) statistic, along with Autocorrelation Function (ACF) and Partial Autocorrelation Function (PACF) plots, were used to assess autocorrelation in the model. The DW statistic of 1.8902 indicated little to no positive autocorrelation, suggesting that the errors were independent. The ACF and PACF plots also showed no significant patterns of autocorrelation, supporting the assumption that the errors were independent.

Normality of Residuals: The residuals from the regression analysis should ideally follow a normal distribution to validate the model's assumptions. Non-normality of residuals, such as skewness or outliers, could affect the reliability of the regression results. Q-Q plots were used to visually assess the normality of residuals. The analysis showed that while most of the residuals followed a normal distribution, there were slight deviations at the tails, indicating some outliers. However, the overall distribution was sufficiently close to normal, supporting the assumption of normality and the reliability of the regression analysis.

3.9 Ethical considerations

Ethics involves the behavioral standards that dictate how researchers treat the rights of those involved in or affected by their work. This study adhered to ethical principles by following respect, justice, and beneficence. This was formally approved by obtaining ethical clearance from the Strathmore University Institutional Ethics Review Committee (SU-IERC).

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the analysis on factors influencing regulatory compliance among insurance companies in Kenya. It begins with descriptive statistics, followed by diagnostic tests to ensure the data meets panel regression assumptions. Correlation analysis is then used to explore relationships between variables. Finally, panel regression results are presented using both Fixed Effects and Random Effects models, with the Hausman test guiding model selection.

4.2 Descriptive Statistics

Section 4.2 presents the descriptive statistics for key variables examined in this study, providing an overview of the distribution and characteristics of ownership structure, board structure, firm size, and other relevant metrics within Kenyan insurance companies. These statistics offer insights into the general trends, variability, and skewness of the data, shedding light on the diverse governance structures, financial profiles, and compliance behaviors of firms in the industry. By analyzing these descriptive measures, we gain a deeper understanding of the dynamics influencing regulatory compliance within the Kenyan insurance sector, setting the stage for further exploration of the relationships between these factors.

Table 4.1: Summary of Descriptive Statistics of Variables

Variable	N	Mean	SD	Median	Trimmed	Mad	Min	Max	Range	Skew	Kurtosis	SE
Ownership Structure	567	50.46	3.02	50.00	50.00	0.00	36.00	75.00	39	5.63	3.94	0.13
Board Structure	567	59.27	13.57	58.12	58.52	11.95	29.54	100.00	70.46	0.49	0.08	0.57
Firm Size	567	46.93	15.21	43.75	45.68	13.89	18.98	100.00	81.02	0.83	0.59	0.64
Age	567	41.67	35.94	36.00	35.71	22.24	0.00	177.00	177	2.21	5.59	1.51
Leverage	567	60.30	14.61	60.87	59.62	12.90	26.09	100.00	73.91	0.35	0.01	0.61

Variable	N	Mean	SD	Median	Trimmed	Mad	Min	Max	Range	Skew	Kurtosis	SE
Insurance Classes	567	42.78	20.92	28.57	40.33	21.17	14.29	100.00	85.71	0.83	-0.15	0.88
Regulatory Compliance	567	91.30	4.90	91.00	91.32	5.93	76.00	100.00	24	-0.10	-0.59	0.21

Ownership structure, measured through ownership concentration, exhibited a mean of 50.46%, indicating that, on average, the top five shareholders owned just over half of each company's equity. The standard deviation of 3.02% suggests relatively low variation in ownership concentration across firms, implying that most firms had a fairly similar ownership distribution. The median value of 50% closely aligns with the mean, indicating a relatively symmetric central tendency, though the high positive skew of 5.63 reveals that a few firms had notably higher ownership concentration compared to the rest. The kurtosis value of 3.94, slightly above the normal distribution benchmark of 3, suggests a distribution with moderately heavier tails, meaning there were some extreme observations. The range of 39% further supports the existence of firms with very different ownership concentration levels. Finally, the standard error of 0.13% indicates that the sample mean is estimated with a high degree of precision, reinforcing the reliability of the ownership structure measure in the study.

Board structure, operationalized through board independence, had a mean of 59.27%, indicating that, on average, slightly more than half of board members across the insurance firms were independent directors. The standard deviation of 13.57% suggests a moderate level of variability in board independence among firms. The median value of 58.12% and the trimmed mean of 58.52% are both close to the overall mean, pointing to a fairly symmetric distribution with limited influence from extreme values. The range of 70.46% highlights considerable differences between firms with the highest and lowest levels of board independence. The skewness of 0.49 indicates a slight positive skew, meaning that there are a few firms with exceptionally high proportions of independent directors. Meanwhile, the kurtosis value of 0.08, which is close to zero, suggests that the distribution is relatively flat compared to a normal distribution, with lighter tails.

Firm size, measured through total assets, recorded a mean of 46.93%, indicating that, on average, firms held about 46.93% of total sector assets after normalization. The standard deviation of

15.21% suggests a considerable spread in firm sizes, with some firms significantly larger or smaller relative to others. The positive skewness of 0.83 indicates that the distribution is moderately skewed to the right, meaning a few firms are much larger than the majority. The kurtosis value of 0.59, which is below the normal distribution benchmark of 3, suggests a relatively flatter distribution with fewer extreme values (outliers) than a normal curve. Overall, the statistics imply that while most firms cluster around the mean, a few very large firms pull the distribution slightly toward the higher end.

The trendline (Appendix 5.1) for board structure in Kenyan insurance companies between 2014 and 2022 reveals a slight upward trend, indicating an overall increase in board independence. This is reflected in the red dashed line representing the average, while the green lines show significant variation across companies. Some companies have maintained independence within their boards, whereas others have undergone considerable changes, with notable fluctuations in 2016 and 2021. These shifts suggest that regulatory pressures and internal governance changes might have influenced board restructuring during these years.

The trendline (Appendix 5.2) for firm size in the Kenyan insurance industry between 2014 and 2022 reveals a general upward trajectory, signifying an overall increase in total assets. The blue line representing the average shows this consistent growth, although it is punctuated by fluctuations. For instance, the dip in 2018 reflects challenges possibly linked to unfavorable economic conditions or regulatory hurdles, while the sharp upward trend in 2022 indicates recent positive developments. The wide range of variability, depicted by the vertical doted lines, highlights disparities between companies, with some insurers achieving significant growth while others struggle. The particularly high variability in 2016 could point to diverse responses by companies to external pressures such as market changes or competition.

The trendline (Appendix 5.3) for the age of Kenyan insurance companies from 2014 to 2022 shows a steady upward trajectory, which aligns with the natural progression of time as companies grow older. The red dashed line representing the average age highlights this gradual increase. Meanwhile, the relatively stable range, indicated by the green lines, suggests a consistent mix of both newer and older companies in the market. A slight narrowing of this range in later years may indicate a slowdown in new entrants, possibly due to stricter regulatory requirements or market

saturation. Notably, there are no extreme outliers, implying a balanced age distribution across the sector without any disproportionately young or old companies dominating the market.

The trendline for leverage (Appendix 5.4), measured by the debt-to-equity ratio, among Kenyan insurance companies from 2014 to 2022 shows a generally declining pattern with moderate fluctuations. A blue line illustrates the trend of leverage over this period, showing a recurring pattern of a sharp increase at the beginning of each year followed by a gradual decline throughout the year. Superimposed on this cyclical pattern is a dashed red line that exhibits an overall upward trend in leverage from 2014 to 2022. This suggests that while there are annual cycles of leverage increasing and then decreasing, the general tendency over these years has been for the leverage to be higher in each subsequent cycle compared to the last.

For the trendline on regulatory compliance (see Appendix 5.6), a slight upward trend suggests that regulatory adherence has gradually improved across the sector. The red dashed line highlights this overall increase, implying that the industry is progressively aligning more with the regulatory expectations set by the Insurance Regulatory Authority (IRA). The minor fluctuations in yearly averages indicate that while progress is being made, compliance does not follow a smooth trajectory, with some years exhibiting stronger adherence than others. Notably, years such as 2015 and 2019 show dips in the average compliance scores, likely reflecting periods of regulatory adjustment or economic challenges that impacted compliance efforts.

A relationship between ownership structure and regulatory compliance within Kenyan insurance companies is also illustrated (see Appendix 5.7). The scatter plot suggests a weak negative correlation, where a more dispersed ownership concentration, is slightly associated with lower regulatory compliance. However, this trend is not strong, as evidenced by the wide scattering of data points. Many companies deviate from this pattern, with some demonstrating high compliance despite dispersed ownership and others struggling with compliance even with potentially concentrated ownership. This suggests that ownership structure alone is not a strong predictor of regulatory compliance.

4.3 Diagnostic Statistics

This section presents the diagnostic tests conducted to ensure the reliability and validity of the statistical analyses performed in this study. Several key assumptions underlying the chosen statistical methods were examined. Specifically, unit root tests were employed to assess the stationarity of the panel data, ensuring that the statistical properties of the variables remain stable over time. Multicollinearity among independent variables was evaluated using Variance Inflation Factors (VIFs) to detect and address potential issues arising from highly correlated predictors. The normality of residuals, a crucial assumption for valid inference in regression analysis, was assessed using Q-Q plots. Additionally, tests for autocorrelation, including the Autocorrelation function (ACF), Partial Autocorrelation Function (PACF) plots, and the Durbin-Watson test, were conducted to examine the independence of residuals across panels. To further validate the consistency of the results, a robustness test was performed using alternative model specifications to confirm the stability of the coefficients and ensure that the findings were not sensitive to the particular estimation technique used. These diagnostic tests collectively reinforce the appropriateness of the analytical methods applied and the credibility of the study's conclusions.

4.3.1 Unit Root Test

To check if the data was stable over time, the unit root test was used. This test helps determine if any variables would create unreliable results. For each variable, the test assumes the data is unstable (null hypothesis). If the test shows a p-value below 0.05, it means the data is likely stable (rejecting the null hypothesis). In this research, variables like ownership structure, board structure, company size, and regulatory compliance were tested. The results showed all variables were stable at a 5% level, making them suitable for further analysis.

Table 4.2: Results of Unit Root Test for Variables

Variable	Test Statistic	p-Value
Year	-5.279224	0.01000000
Ownership Structure	-3.592670	0.03339609
Board Structure	-5.387202	0.01000000

Firm Size	-4.374126	0.01000000
Age	-6.631286	0.01000000
Leverage	-7.320783	0.01000000
Insurance Classes	-10.007350	0.01000000
Regulatory Compliance	-4.365805	0.01000000
Control Variables	-5.619042	0.01000000

The results of the unit root test presented in Table 4.2 show that all variables, including ownership structure, board structure, firm size, age, leverage, insurance classes, and regulatory compliance, have a test statistic that is negative and significant with p-values below 0.05. For instance, ownership structure has a test statistic of -3.592670 with a p-value of 0.033396, while board structure shows a test statistic of -5.387202 with a p-value of 0.010000. Similarly, firm size has a test statistic of -4.374126 (p-value = 0.010000), and regulatory compliance has a test statistic of -4.365805 (p-value = 0.010000). These findings suggest that all the variables are stationary and do not exhibit unit roots, meaning that their statistical properties do not vary over time. This allows for reliable econometric analysis of these variables in examining their determinants of regulatory compliance.

Furthermore, the negative test statistics for all variables suggest that they are mean-reverting, which indicates that the data do not show any persistent upward or downward trends. This is critical because non-stationary data can lead to unreliable estimates and spurious relationships in regression models. Since the p-values are consistently less than 0.05, we can reject the null hypothesis of a unit root and conclude that all variables are stationary. Therefore, the data are appropriate for inclusion in further analyses, such as regression models or other statistical methods, to assess how ownership structure, board characteristics, and other factors influence regulatory compliance in Kenyan insurance companies.

The results from the unit root test confirm that all variables in the study are stationary, making them suitable for inclusion in further analysis. The significance of the test statistics and the rejection of the null hypothesis for each variable indicate that the variables are stable over time

and ready for econometric testing, particularly in examining their relationship with regulatory compliance. In line with prior studies on regulatory compliance, such as those by (Kumbhakar and Tsionas,2013), ensuring that variables are stationary enhances the reliability of regression results and helps in drawing meaningful conclusions about the factors influencing compliance behavior in the insurance sector.

4.3.2 Multicollenrarity Test

To assess multicollinearity in this study, the Variance Inflation Factor (VIF) and its reciprocal (1/VIF) were calculated for each independent variable. These values help identify any predictors that are excessively correlated with one another, potentially compromising the accuracy and stability of the regression model. A VIF value greater than 10 is typically considered an indication of problematic multicollinearity, warranting further investigation or corrective action. The following section presents the results of this diagnostic test for the study's variables.

Table 4.3: Variance Inflation Factor (VIF) for the Study Variables

Variable	VIF	1/VIF
Firm Size	3.31	0.3019
Board Structure	2.88	0.3468
Ownership Structure	1.06	0.9462
Age	1.82	0.5495
Leverage	2.21	0.4525
Insurance Classes Offered	2.12	0.4717
Mean VIF	**2.23**	

The Variance Inflation Factor (VIF) results in Table 4.3 indicate that multicollinearity is not a significant concern among the variables used in the study. All VIF values are well below the commonly accepted threshold of 10, with firm size recording the highest VIF at 3.31, followed by board structure at 2.88 and leverage at 2.21. The disaggregated control variables—age (1.82), leverage (2.21), and insurance classes offered (2.12)—also fall within acceptable limits, while ownership structure has the lowest VIF at 1.06, suggesting minimal correlation with other

predictors. The mean VIF of 2.23 further reinforces the conclusion that multicollinearity is not a threat to the validity of the regression estimates, allowing for reliable interpretation of individual variable effects.

4.3.3 Normality Test

The normality test in this study uses the Q-Q plot to assess whether the residuals follow a normal distribution. This test helps determine if the model's assumptions are met, as normal residuals are crucial for valid inference in regression analysis.

The Q-Q plot in Appendix 5.8 reveals that the majority of the residuals from the statistical model closely follow the red diagonal line, indicating that the residuals are approximately normally distributed for most of the data. However, there are noticeable deviations at the tails of the plot, especially at the lower and upper extremes. This suggests that while the residuals generally adhere to normality, there are some outliers present, with the data exhibiting heavier tails than a perfect normal distribution.

4.3.4 Test for Autocorrelation

The test for autocorrelation examines the dependence between current and past values in a time series. By using the Autocorrelation Function (ACF) and Partial Autocorrelation Function (PACF) plots, it helps identify patterns of persistence and the structure of dependencies at various lags. This analysis is fundamental for understanding the behavior of the series and determining the appropriate modeling approach, particularly in time series data where historical influence is expected. The results from these tests are presented in Appendix 5.9 (ACF), Appendix 5.10 (PACF), and Table 4.4 (Durbin-Watson test), which collectively demonstrate the presence and nature of autocorrelation within the dataset.

The Autocorrelation Function (ACF) plot reveals a strong dependence in the data, as indicated by high autocorrelation at short lags and a gradual decay pattern, characteristic of a stationary autoregressive process. The presence of significant autocorrelation beyond lag 1, with multiple bars extending beyond the confidence bounds, confirms that the data is influenced by its past values over time. This suggests that the time series exhibits meaningful structure and is not

random, making it suitable for modeling and analysis. These findings align with expectations for regulatory compliance data, where patterns of persistence and historical influence are common.

The Partial Autocorrelation Function (PACF) plot highlights a strong dependency at lag 1, indicating that the immediate past value significantly influences the current value. Beyond lag 1, the partial autocorrelations fall within the confidence bounds, suggesting that additional lags contribute little explanatory power. This pattern is consistent with a stationary AR(1) process, where the series primarily relies on its most recent value. The clear and structured dependency shown in the PACF validates the data's suitability for time series analysis

Table 4.4: Durbin-Watson Test

Test	Statistic
Durbin-Watson (DW)	1.8902
p-value	0.08399
Alternative Hypothesis	True autocorrelation is greater than 0

The Durbin-Watson (DW) test evaluates whether there is significant positive autocorrelation in the residuals of a time series model. The null hypothesis (H_0) assumes no autocorrelation ($\rho=0$), while the alternative hypothesis (H_1) suggests positive autocorrelation ($\rho>0$). In this case, the DW statistic is 1.8902, which is close to 2, indicating little to no evidence of positive autocorrelation. The p-value of 0.08399 is greater than the typical threshold of 0.05, so we fail to reject the null hypothesis, suggesting the residuals are not significantly autocorrelated. This result indicates that the model's residuals are likely independent, satisfying one of the key assumptions for time series analysis.

4.4 Correlation Analysis

This section examines the relationships between the study's key variables—ownership structure, board structure, firm size, age, leverage, insurance, and regulatory compliance—through correlation analysis. The analysis highlights the strength and direction of these relationships, with correlation coefficients (r) ranging between -1 and 1. Positive values indicate a direct relationship, while negative values indicate an inverse relationship. The findings are presented in Table 4.5 (Correlation Analysis Matrix).

Table 4.5: Correlation Analysis Matrix

Variable	Ownership Structure	Board Structure	Firm Size	Age	Leverage	Insurance Classes	Regulatory Compliance
Ownership Structure	1.000	0.045	-0.052	0.003	-0.182	0.089	-0.078
p-value	-	0.152	0.134	0.912	0.000	0.058	0.062
Board Structure	0.045	1.000	0.412	0.185	0.475	0.179	0.620
p-value	0.152	-	0.000	0.000	0.000	0.000	0.000
Firm Size	-0.052	0.412	1.000	0.267	0.384	0.212	0.540
p-value	0.134	0.000	-	0.000	0.000	0.000	0.000
Age	0.003	0.185	0.267	1.000	0.133	-0.014	0.275
p-value	0.912	0.000	0.000	-	0.003	0.731	0.000
Leverage	-0.182	0.475	0.384	0.133	1.000	0.107	0.615
p-value	0.000	0.000	0.000	0.003	-	0.001	0.000
Insurance Classes	0.089	0.179	0.212	-0.014	0.107	1.000	0.162
p-value	0.058	0.000	0.000	0.731	0.001	-	0.000
Regulatory Compliance	-0.078	0.620	0.540	0.275	0.615	0.162	1.000
p-value	0.062	0.000	0.000	0.000	0.000	0.000	-

The correlation analysis revealed several important relationships among the study variables. Ownership structure exhibited a very weak negative correlation with regulatory compliance ($r = -0.078$, $p = 0.062$), suggesting no significant linear association between the two. Board structure showed a strong positive correlation with regulatory compliance ($r = 0.620$, $p < 0.001$), indicating that higher levels of board independence were associated with improved regulatory outcomes. Similarly, firm size was positively and significantly correlated with regulatory compliance ($r = 0.540$, $p < 0.001$), implying that larger firms may possess greater capacity to meet regulatory requirements. Firm age demonstrated a moderate positive correlation with regulatory compliance ($r = 0.275$, $p < 0.001$), suggesting that more established firms tend to have stronger compliance mechanisms. Leverage exhibited a strong positive relationship with regulatory compliance ($r = 0.615$, $p < 0.001$), while the number of insurance classes offered displayed a weaker but still significant positive correlation ($r = 0.162$, $p < 0.001$).

Inter-variable correlations were also observed, particularly between board structure and firm size ($r = 0.412$, $p < 0.001$), and between leverage and both board structure ($r = 0.475$, $p < 0.001$) and firm size ($r = 0.384$, $p < 0.001$). These findings suggest that firms with larger boards and stronger capital structures may tend to be larger in size. Although some predictors were moderately correlated, the levels observed were generally within acceptable thresholds, indicating that multicollinearity was unlikely to pose a major concern for the multivariate regression analysis. Overall, the correlation results provided preliminary support for the hypothesized relationships and informed the selection of variables for further modeling.

4.5 Regression Statistics

The study employed regression analysis to establish the determinants of regulatory compliance among insurers in Kenya, with a focus on ownership structure, board structure, and firm size as key independent variables, while controlling for firm age, financial leverage, and the number of insurance services provided.

Table 4.6: Fixed Effects and Random Effects Regression Results for Regulatory Compliance

Variable	Fixed Effects (FE)	Std. Err.	t-value	p-value	Random Effects (RE)	Std. Err.	z-value	p-value
Ownership Structure	0.199	0.025	8.000	0.000	0.211	0.027	7.810	0.000
Board Structure	0.126	0.011	11.330	0.000	0.139	0.012	11.420	0.000
Firm Size	-0.019	0.014	-1.370	0.171	0.014	0.013	1.100	0.273
Age	0.299	0.055	5.420	0.000	0.005	0.006	0.940	0.348
Leverage	0.233	0.013	17.490	0.000	0.256	0.012	21.670	0.000
Insurance Classes	0.049	0.022	2.180	0.030	-0.016	0.009	-1.750	0.080
Constant	46.047	1.926	23.910	0.000	56.744	1.506	37.680	0.000
Number of Observations	567				567			
Number of Groups	63				63			
Within R^2	0.933				0.928			

Between R^2	0.402	0.612
Overall R^2	0.336	0.753
Hausman Test ($Chi^2(6)$)	20.660	
Prob > Chi^2	0.002	
Conclusion	Fixed Effects (FE) preferred	

The results of the Hausman test ($p = 0.0021$) indicate that the fixed effects (FE) model is preferred over the random effects (RE) model, implying that unobserved heterogeneity across organizations is correlated with the explanatory variables. This suggests that organizational characteristics influencing regulatory compliance are unique to each insurer and must be accounted for within the model to ensure accurate inference. The high within-R^2 (0.9326) in the FE model further highlights that the included variables explain a significant portion of the variation in regulatory compliance within firms over time.

The coefficient for ownership structure is 0.199 ($p < 0.001$), suggesting that a 1-percentage point increase in ownership structure (measured through ownership concentration) is associated with a 0.199-point increase in regulatory compliance, holding other factors constant. This positive and statistically significant relationship ($t = 8.000$) highlights the importance of ownership arrangements in enhancing regulatory adherence. A possible interpretation is that structured ownership dynamics, even when concentrated, may foster greater accountability among dominant shareholders, thereby promoting compliance efforts within insurance firms.

Board structure, proxied through board independence, has a coefficient of 0.126 with a highly significant p-value ($p < 0.001$) and a t-value of 11.330. This indicates that a 1-percentage point increase in board independence leads to a 0.126-point increase in regulatory compliance. The strong significance and positive direction of the relationship emphasize the critical role of independent boards in overseeing management practices and ensuring that firms adhere to regulatory frameworks, in line with governance theories advocating for independent oversight.

Firm size shows a coefficient of –0.019 with a p-value of 0.171, indicating that the relationship between firm size and regulatory compliance is negative but statistically insignificant. Although the negative sign suggests that larger firms might be slightly less compliant, the lack of significance (t = –1.370) implies that, within this sample, differences in firm size do not meaningfully explain variations in regulatory compliance. Therefore, size alone may not be a reliable predictor of regulatory behavior among Kenyan insurance companies.

The age of the firm exhibits a positive coefficient of 0.299, with a p-value of less than 0.001, demonstrating a strong and statistically significant relationship with regulatory compliance. Specifically, an additional year in firm age is associated with a 0.299-point increase in regulatory compliance, suggesting that older firms are more likely to have established compliance mechanisms and a better understanding of regulatory expectations. The t-value of 5.420 further confirms the robustness of this relationship.

Leverage is positively associated with regulatory compliance, with a coefficient of 0.233 and a p-value below 0.001. This highly significant result (t = 17.490) implies that firms with higher financial leverage tend to be more compliant with regulatory standards. One possible interpretation is that highly leveraged firms may face greater scrutiny from creditors and regulators, encouraging stronger compliance behaviors to maintain their financial standing and avoid penalties that could exacerbate financial vulnerabilities.

The number of insurance classes offered has a coefficient of 0.049 and a p-value of 0.030, indicating a positive and statistically significant effect on regulatory compliance at the 5% significance level. This suggests that firms offering a broader range of insurance products tend to exhibit better regulatory compliance. The rationale may be that offering multiple classes requires more sophisticated operations and greater regulatory oversight, which in turn drives firms to maintain higher compliance standards to sustain their product lines.

The study examines the determinants of Regulatory Compliance in organizations using a Fixed-Effects (Within) Regression Model is specified as follows:

$$Regulatory\ Compliance_{it} = 46.05 + 0.199(Ownership\ Structure)_{it} + 0.126(Board\ Structure)_{it} - 0.019(Firm\ Size)_{it} + 0.299(Age)_{t} + 0.233(Leverage)_{it} + 0.049(Insurance\ Classes\ Offered)_{it} + \epsilon_{it}$$

Where:

Constant = 46.05 ($p<0.001$)

Ownership Structure ($\beta_1=0.199$, $p<0.0011$)

Board Structure ($\beta_2=0.126$, $p<0.001$)

Firm Size ($\beta_3=-0.019$, $p=0.171$)

Age ($\beta_4=0.299$, $p<0.001$)

Leverage ($\beta_5=0.233$, $p<0.001$)

Insurance Classes Offered ($\beta_6=0.049$, $p=0.030$)

Model Diagnostics:

R-squared (Within) = 0.9326

R-squared (Between) = 0.4021

R-squared (Overall) = 0.3358

F-statistic = 1148.26 ($p<0.001$)

Hausman Test: $\chi^2=20.66$, $p=0.0021$ → *Fixed Effects Model Preferred*

This model suggests that Ownership Structure, Board Structure, Age, Leverage, and Insurance Classes Offered significantly influence Regulatory Compliance, while Firm Size has no significant impact.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter synthesizes the key findings from the preceding data analysis chapters, drawing conclusions about the determinants of regulatory compliance among insurance companies in Kenya. Based on these conclusions, the chapter offers recommendations for managerial practices, policy interventions, and theoretical contributions. Finally, it suggests potential avenues for future research to further explore the dynamics of regulatory compliance in the insurance sector.

5.2 Summary of Findings

5.2.1 The Effect of Ownership Structure on Regulatory Compliance

The study found a discrepancy between the correlation analysis and regression results regarding ownership concentration's impact on regulatory compliance among insurance companies in Kenya. While the correlation analysis suggested a negative relationship between ownership concentration and regulatory compliance, the regression results indicated a positive influence. Specifically, firms with concentrated ownership, where a small group of shareholders holds a significant portion of equity, showed stronger regulatory adherence. This could be explained by the fact that concentrated ownership often enhances oversight, as major shareholders have a vested interest in ensuring the company's stability and reputation. These dominant shareholders are likely to demand higher governance standards and regulatory compliance to safeguard their investments.

The findings suggest that, contrary to the initial correlation results, ownership structures dominated by a few key investors may drive firms to adopt more rigorous compliance practices, thereby promoting overall regulatory adherence within the insurance sector. The regression results were preferred over the correlation analysis as they account for the influence of other control variables in the model, providing a more comprehensive and nuanced understanding of the relationship between ownership concentration and regulatory compliance.

The findings relating to ownership concentration are consistent with the propositions of agency theory. According to agency theory, conflicts often arise between shareholders (principals) and company managers (agents) due to differing interests. When ownership is concentrated in the hands of a few major shareholders, these owners possess both the incentive and the power to monitor managerial actions more closely. Such oversight reduces the likelihood of managerial opportunism and ensures that managers prioritize regulatory compliance and good governance practices. The observed positive association between ownership concentration and regulatory compliance in this study supports the idea that concentrated ownership can mitigate agency problems by aligning managerial behavior with the broader interests of the firm and its stakeholders (Jensen & Meckling, 1976).

The study supports findings from prior research that suggests a positive relationship between concentrated ownership and enhanced regulatory compliance (Bajo et al, 2009). However, this study also emphasizes that ownership structure alone does not guarantee compliance. Firms with a diverse ownership base can still achieve high compliance levels if they establish robust internal controls and foster a culture of ethical leadership. This finding is aligned with research by Chen et al. (2008), who argued that ownership structure needs to be complemented by strong governance mechanisms for it to effectively influence compliance. Therefore, while ownership structure is important, it must be integrated with other factors such as corporate governance practices to create a culture of compliance.

5.2.2 The Effect of Board Structure on Regulatory Compliance

The study found a positive relationship between board independence and regulatory compliance among Kenyan insurance firms. This suggests that firms with more independent boards are better positioned to meet regulatory standards. Independent directors, who are not involved in the day-to-day management of the company, can provide objective oversight, challenge management decisions, and promote greater accountability — all factors that strengthen compliance practices.

These findings are closely aligned with agency theory, which highlights the critical role of independent governance structures in mitigating conflicts of interest between managers and shareholders (Fama & Jensen, 1983). By ensuring that the board is composed of directors who can

act impartially, insurance companies are better able to align internal operations with external regulatory expectations. Thus, enhancing board independence emerges as a vital strategy for strengthening corporate governance and promoting adherence to regulatory frameworks.

The study's findings are in line with previous research that underscores the importance of board independence in enhancing regulatory compliance. Diverse boards, which include members with varied skills, backgrounds, and experiences, bring different perspectives to decision-making processes, increasing the likelihood of identifying and addressing compliance risks (Bohren & Strom, 2014; Isidro & Sobral, 2014). This aligns with the idea that an independent board fosters greater oversight and accountability, ensuring that the firm adheres to regulatory standards and ethical guidelines.

5.2.3 The Role of Firm Size in Regulatory Compliance

The relationship between firm size and regulatory compliance is one that has garnered significant attention in the literature. Larger firms, typically endowed with more resources, are often assumed to have an advantage when it comes to implementing and maintaining compliance mechanisms. They are believed to have the financial and administrative capacity to establish dedicated legal teams, risk management departments, and compliance systems that smaller firms may lack (Chambers et al., 2022; Elg et al., 2014).

However, this study found no significant relationship between firm size and regulatory compliance among Kenyan insurance firms. This suggests that size alone does not necessarily translate into better compliance. Larger firms may have more resources, but they also tend to face more complex regulatory environments, which could dilute any potential advantages. The complexity of managing compliance across multiple markets or product lines may offset the resources that larger firms have at their disposal. In contrast, smaller firms may benefit from simpler regulatory frameworks but may struggle with the lack of resources to implement comprehensive compliance strategies (Zhang et al., 2021).

This finding challenges the assumption that larger firms are inherently better at compliance, as it suggests that the relationship between size and compliance is more nuanced. It underscores the importance of other factors, such as ownership and board structure in shaping regulatory behavior.

This aligns with research by Zulfikar et al. (2020), who found that governance practices and management commitment were more influential in determining compliance outcomes than firm size alone.

5.2.4 The Impact of Age on Regulatory Compliance

Firm age was found to have a positive relationship with regulatory compliance in the fixed-effects model, indicating that older firms tend to have better-established compliance frameworks. Older firms often have more experience in navigating regulatory environments and have likely developed more structured governance mechanisms over time (Bhagat et al., 2015). Moreover, long-established firms tend to have better relationships with regulators, which can facilitate smoother compliance processes (Liu et al., 2020).

However, the non-significant result in the random-effects model suggests that firm age is not a universally applicable predictor of regulatory compliance. Some older firms may still struggle with outdated compliance systems, while younger firms with proactive governance strategies may achieve higher compliance levels despite their relative youth. This highlights the complexity of the relationship between firm age and regulatory adherence. Although older firms may have more experience and established processes, younger firms that implement strong governance practices can also perform well in terms of compliance.

This finding is consistent with Liu et al. (2020), who posited that while older firms may have more experience in regulatory compliance, this does not guarantee adherence. The results emphasize that the age of a firm, while important, is not a sufficient condition for high regulatory compliance. Other factors, such as governance practices, management commitment, and the overall compliance culture within the firm, are crucial in shaping compliance outcomes.

5.2.5 The Influence of Leverage on Regulatory Compliance

Leverage was found to be a significant predictor of regulatory compliance in Kenyan insurance firms. Firms with higher levels of leverage are more likely to comply with regulatory requirements due to the greater scrutiny they face from creditors and regulators. Highly leveraged firms are

incentivized to maintain strong governance and risk management practices to mitigate the financial risks associated with debt (Ngugi, 2023; Osoro, 2021).

This finding supports the notion that leverage serves as an external governance mechanism that compels firms to prioritize regulatory compliance. Creditors often impose monitoring mechanisms on highly leveraged firms to ensure that they maintain sound financial practices and adhere to regulatory standards. Regulatory breaches in highly leveraged firms can exacerbate financial instability, leading to penalties, reputational damage, and loss of investor confidence (Noronha & Khawani, 2016).

The study's findings are consistent with research by Bhagat et al. (2015), which suggested that highly leveraged firms face greater incentives to comply with regulatory requirements due to the potential consequences of non-compliance. The findings also align with the idea that leverage not only affects a firm's financial performance but also acts as a mechanism for ensuring that the firm maintains strong governance practices, including regulatory compliance.

5.2.6 The Effect of Insurance Classes on Regulatory Compliance

The number of insurance classes offered by a firm showed a positive relationship with regulatory compliance in the fixed-effects model, suggesting that product diversification can enhance compliance. Firms offering a wider range of insurance products are likely to face greater regulatory scrutiny, which may compel them to strengthen their compliance mechanisms. Managing a diverse portfolio of products requires firms to develop more comprehensive compliance strategies, including specialized risk assessment protocols and enhanced reporting procedures (Charumathi & Nithya, 2014).

However, the non-significant result in the random-effects model suggests that the impact of product diversification on compliance is not consistent across all firms. Some firms may struggle with the complexity of managing multiple regulatory requirements, potentially leading to compliance challenges. This highlights the need for further research into the contextual factors that influence the relationship between product offerings and regulatory adherence.

This finding aligns with Noronha and Khawani (2016), who suggested that while product diversification may expose firms to greater regulatory oversight, it also requires firms to develop more sophisticated compliance strategies. The mixed results in this study emphasize the importance of understanding the specific regulatory context in which firms operate and the internal capabilities they have to manage compliance effectively.

5.3 Conclusion

The empirical analysis conducted in this study has provided valuable insights into the factors influencing regulatory compliance among Kenyan insurance firms. It has become evident that regulatory compliance is not solely determined by firm size or age, but rather by a nuanced interaction of governance structures and ownership configurations. The findings of the study underscore the complexity of the factors at play, with certain aspects playing a more significant role in driving compliance than others.

First, ownership structure, operationalized through ownership concentration, was found to have a significant positive impact on regulatory compliance among Kenyan insurance companies. Specifically, firms with more concentrated ownership exhibited stronger compliance with regulatory standards. This suggests that dominant shareholders may play an active role in ensuring that firms adhere to regulatory expectations, likely to protect their substantial investments and uphold the firm's reputation. These findings are consistent with agency theory, as concentrated ownership appears to mitigate agency problems by enhancing oversight and reducing managerial opportunism.

Second, board structure, measured through board independence, also demonstrated a significant positive association with regulatory compliance. Insurance firms with a higher proportion of independent directors tended to show better compliance outcomes. This result highlights the critical role that independent boards play in promoting transparency, accountability, and adherence to regulatory requirements. The findings reinforce corporate governance literature that emphasizes the importance of independent board oversight in curbing managerial misconduct and aligning firm practices with regulatory and stakeholder expectations.

Third, firm size, proxied by total assets, was found to have no statistically significant effect on regulatory compliance. While it was anticipated that larger firms might have more resources to allocate toward compliance activities, the findings suggest that size alone does not guarantee better regulatory adherence. This outcome implies that factors such as ownership structure and board governance may play a more central role in shaping compliance behaviors than simply the scale of a firm's operations.

Overall, the study concludes that internal governance mechanisms, particularly ownership concentration and board independence, are critical determinants of regulatory compliance among Kenyan insurance firms. The results emphasize the need for regulatory bodies and policymakers to consider governance structures when designing frameworks aimed at enhancing compliance in the insurance sector.

5.4 Recommendations

5.4.1 Managerial/Practical Recommendations

The study found that higher ownership concentration positively influences regulatory compliance. Therefore, insurance companies should consider structuring their ownership in a way that consolidates control among a few strategic stakeholders. This could help increase the scrutiny on management's actions and improve adherence to regulatory guidelines. Managers should encourage active involvement from major shareholders in corporate governance to ensure that there is a strong oversight mechanism in place. While promoting ownership concentration, it is essential to balance it to avoid risks of entrenchment or control abuse.

The findings indicate that board independence is a key factor in driving regulatory compliance. To enhance compliance, insurance companies should focus on maintaining or increasing the proportion of independent directors on their boards. Independent directors bring unbiased perspectives and are more likely to hold management accountable, which can result in more stringent compliance practices. Companies should prioritize recruiting directors with relevant expertise in regulation, corporate governance, and compliance, ensuring that these independent voices are empowered to challenge management decisions when necessary.

5.4.2 Policy Recommendations

Policy recommendations based on the study's findings emphasize the need for regulatory bodies and policymakers to foster ownership structures and governance frameworks that encourage greater compliance within the insurance industry. First, the Insurance Regulatory Authority (IRA) should consider incentivizing ownership concentration, particularly where a few major shareholders can exert meaningful oversight, to enhance compliance with regulatory standards. At the same time, policies that promote board independence should be strengthened, ensuring that boards consist of a sufficient number of independent directors who can challenge management and improve regulatory adherence. Furthermore, regulatory frameworks could consider setting specific guidelines on board composition and ownership structure to align with best practices in corporate governance, ultimately fostering an environment where insurers are more likely to meet or exceed regulatory compliance standards. This would contribute to better oversight, transparency, and reduced risk of non-compliance within the sector.

5.5 Suggestions for future studies

Future research should consider adopting a qualitative or mixed methods approach to provide a more comprehensive understanding of regulatory compliance trends among insurance companies in Kenya. While this study focused on quantitative analysis, incorporating qualitative methods can offer valuable insights into the contextual factors and stakeholder perspectives that drive compliance behaviors. For instance, conducting in-depth interviews with the regulator, the insurance companies and policy makers can shed light on the challenges, opportunities and best practices in driving regulatory compliance. This approach can help uncover the nuances and complexities that may not be fully captured by statistical analyses alone.

Future research could also benefit from exploring the impact of external factors, such as regulatory enforcement and industry competition, on compliance behaviors within Kenyan insurance companies. This would complement the current study's focus on internal company dynamics by providing a more comprehensive understanding of how both internal and external factors interact to influence regulatory compliance. By integrating these external factors into the analysis, future studies can offer a more nuanced perspective on the complex interplay between internal

organizational characteristics and external environmental pressures that shape compliance behaviors in the insurance sector.

Future research could consider incorporating moderating variables to better understand the complexity of compliance behavior. Variables such as regulatory enforcement intensity, market competition, and corporate governance quality may influence the strength and direction of relationships between ownership concentration, board independence, firm size, and compliance outcomes. For example, stronger regulatory oversight could mitigate the negative effects of concentrated ownership on capital adequacy, while high market competition might exacerbate compliance challenges for smaller firms. Including such moderators would provide a more nuanced analysis of the determinants of regulatory compliance and enhance the practical relevance of findings for policymakers and industry stakeholders

5.6 Limitations of the Study

This study offers valuable insights into the factors influencing regulatory compliance within Kenyan insurance companies, but it is not without limitations. Firstly, the reliance on secondary data poses challenges, as it may contain missing values, reporting biases, or inconsistencies in measurement across firms. To address these limitations, future studies could complement these findings by collecting primary data through surveys or interviews with key stakeholders, thereby enhancing the accuracy and depth of the insights.

Secondly, the study's focus on Kenyan insurance companies restricts the generalizability of its findings to other industries or countries with different regulatory frameworks and corporate governance structures. Conducting comparative studies across multiple sectors or countries would provide a broader perspective on regulatory compliance dynamics, allowing for more comprehensive understanding and application of the results. Additionally, the study's use of panel data analysis captures variations over time but does not fully address potential endogeneity issues, such as reverse causality or omitted variable bias. Future research could employ more advanced econometric techniques, such as instrumental variable regression or dynamic panel models, to address these concerns and strengthen the validity of the findings.

Despite these limitations, the study contributes significantly to the understanding of regulatory compliance in the insurance sector. It provides practical and policy-relevant insights that are beneficial for industry stakeholders and regulators, highlighting the importance of internal dynamics in shaping compliance behaviors. By acknowledging these limitations, the study sets the stage for future research that can build upon its findings and explore new avenues for improving regulatory compliance across diverse contexts.

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APPENDICES

APPENDIX I: INTRODUCTORY LETTER

The Insurance Regulatory Authority,

Zep-Re Place Longonot Road – Upper Hill,

Nairobi Kenya.

Dear Sir/Madam,

RESEARCH ASSISTANCE – MR. ANTHONY WAINAINA

Please be introduced to Mr. Anthony Wainaina, a student at Strathmore Business School pursuing a Masters Degree in Development Finance. Anthony is expected to conduct an academic research project as part of his course requirements. As such, he'd like to request for data from your organization.

Anthony is working on a research paper titled "**The Determinants of Regulatory Compliance among Insurance Companies in Kenya**". All information acquired from will be kept confidential and used only for research purposes.

We are happy to share the study's findings. We believe they will be of benefit to your company. Thanks for your support and we will be happy to provide additional context if needed.

Yours sincerely,

[NAME – DIRECTOR MDF PROGRAM]

APPENDIX II: DATA COLLECTION MATRIX

Variable	Indicators	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ownership structure	Institutional ownership									
	Ownership concentration									
Board Structure	Board size									
	Board independence									
	Gender diversity									
	Foreign composition									
Firm characteristics	Size									
	Financial performance									
Control variables	Age									
	Leverage									
	Insurance classes offered									
Regulatory compliance	Minimum capital requirements									
	Margin of solvency									
	Timely submission of financial statements									
	Claims settlement									
	Payment of statutory levies									

APPENDIX III: LIST OF INSURANCE COMPANIES IN KENYA

List of insurance firms that, as of December 2023, have been granted permission by Kenya's insurance regulating body to engage in insurance and reinsurance operations.

Sn.	Company	Type of Company
1	AAR Insurance Company	General
2	ABSA Life Assurance Kenya Limited	Long Term
3	Africa Merchant Assurance Company Limited	General
4	AIG Kenya Insurance Company Limited	General
5	APA Insurance Limited	General
6	APA Life Assurance Company Limited	Long Term
7	Britam General Insurance Company (K) Limited	General
8	Britam Life Assurance Company (K) Limited	Long Term
9	Cannon General Insurance (K) Limited	General
10	Cannon Life Assurance (K) Limited	Long Term
11	Capex Life Assurance Company Limited	Long Term
12	CIC General Insurance Company Limited	General
13	CIC Life Assurance Company Limited	Long Term
14	Continental Reinsurance Limited (Kenya)	Reinsurance (General)
15	Corporate Insurance Company Limited	Composite (General)
16	Directline Assurance Company Limited	General
17	East Africa Reinsurance Company Limited (G)	Reinsurance
18	Equity Life Assurance (Kenya) Limited	Long Term
19	Fidelity Shield Insurance Company Limited	General
20	First Assurance Company Limited	General
21	GA Insurance Limited	General
22	GA Life Assurance Limited	Long Term
23	Geminia Insurance Co. Limited	General
24	Geminia Life Insurance Company Limited	Long Term
25	Ghana Re	Reinsurance
26	Healthier (K) Micro Insurance Limited	Micro Insurance
27	ICEA Lion General Insurance Company Limited	General
28	ICEA Lion Life Assurance Company Limited	Long Term
29	Intra Africa Assurance Company Limited	General
30	Invesco Assurance Company Limited	General
31	Jubilee Allianz General Insurance Limited	General
32	Jubilee Health Insurance Limited	General
33	Jubilee Life Insurance Limited	Long Term
34	Kenindia Assurance Company Limited	Composite
35	Kenya Orient Insurance Limited	General
36	Kenya Orient Life Assurance Limited	Long Term
37	Kenya Reinsurance Corporation Limited	Reinsurnace
38	KUSSCO Mutual Assurance Limited	Long Term
39	Liberty Life Assurance Kenya Limited	Long Term

Sn.	Company	Type of Company
40	Madison General Insurance Company Limited	General
41	Madison Life Insurance Company Kenya Limited	Long Term
42	Mayfair Insurance Company Limited	General
43	Occidental Insurance Company Limited	General
44	Old Mutual General Insurance Kenya Limited	General
45	Old Mutual Life Assurance Kenya Limited	Long Term
46	Pacis Insurance Company Limited	General
47	Mua Insurance (Kenya) Limited	General
48	Pioneer General Insurance Company	General
49	Pioneer Assurance Company Limited	Long Term
50	Prudential Life Assurance Company Limited	Long Term
51	Resolution Insurance Company Limited (Now Under Statutory Management)	General
52	Sanlam General Insurance Company	General
53	Sanlam Life Assurance Company Limited	Long Term
54	Star Discover Insurance Limited	General
55	Star Discover Life Insurance Limited	Life
56	Takaful Insurance Of Africa Limited	General
57	Tausi Assurance Company Limited	General
58	The Heritage Insurance Company Limited	General
59	The Kenyan Alliance Insurance Company Limited	Composite
60	The Monarch Insurance Company Limited	Composite
61	Trident Insurance Company Limited	General
62	Xplico Insurance Company Limited	General
63	Waica Reinsurance (Kenya) Limited	Reinsurance

Source:?

APPENDIX IV: RESEARCH AUTHORIZATION ALETTER

Strathmore UNIVERSITY

10th December 2024

Mr Wainaina Anthony,
Anthony.Wainaina@strathmore.edu

Dear Mr Wainaina,

RE: The Determinants of Regulatory Compliance among Insurance Companies in Kenya

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2525/24.** The approval period is from **10th December 2024 to 9th December 2025.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
v. Clearance for the export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and obtain other clearances needed.

Yours sincerely,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

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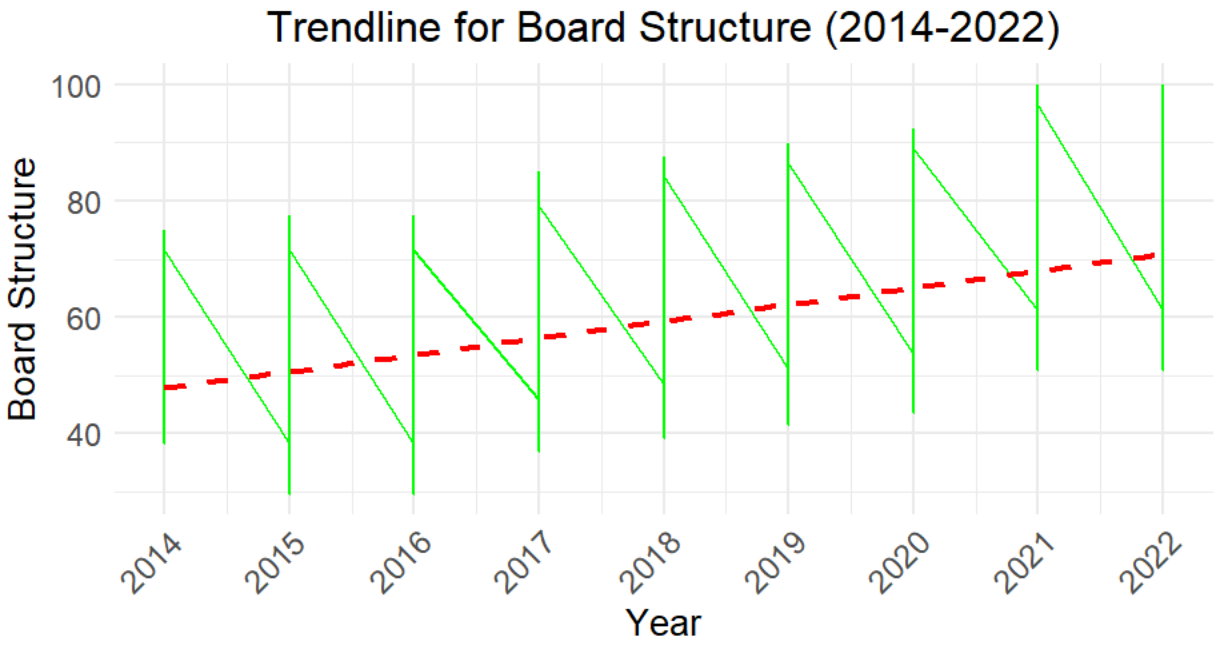
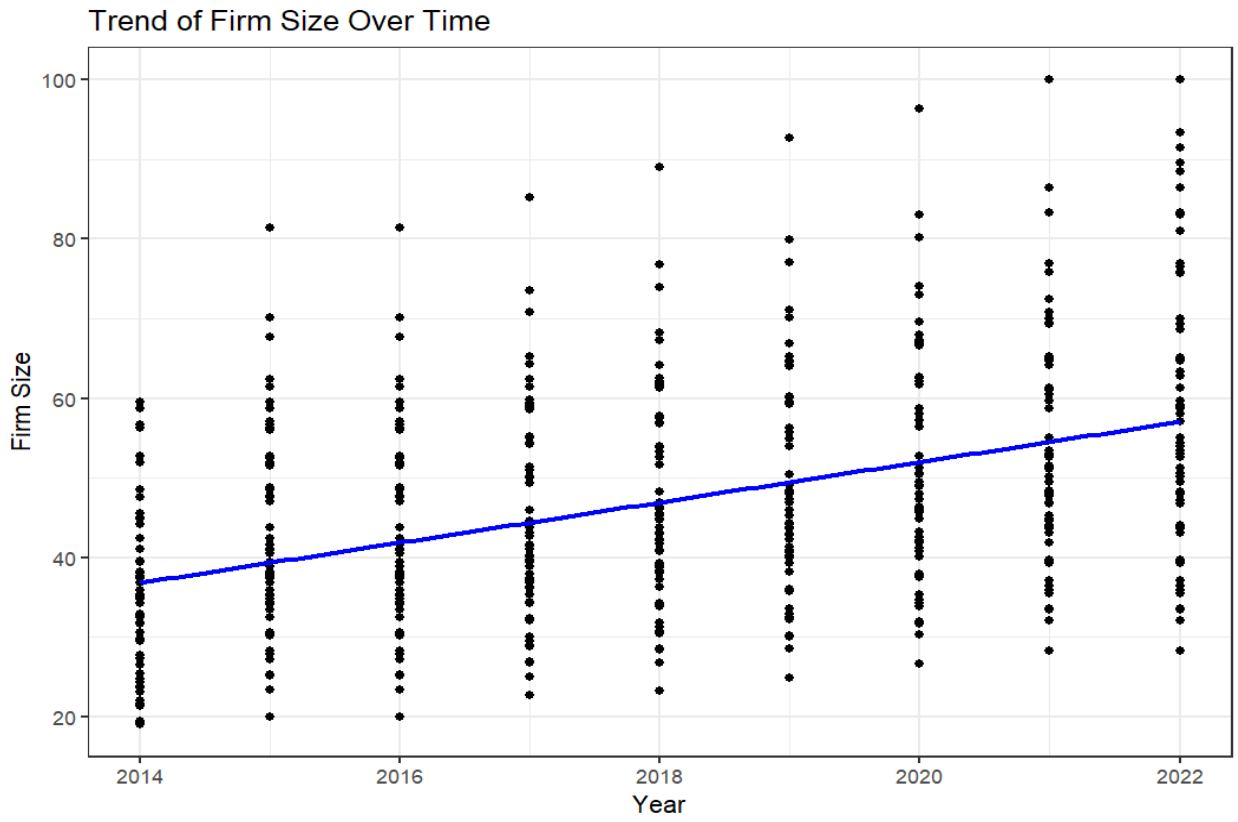
Email admissions@strathmore.edu www.strathmore.edu

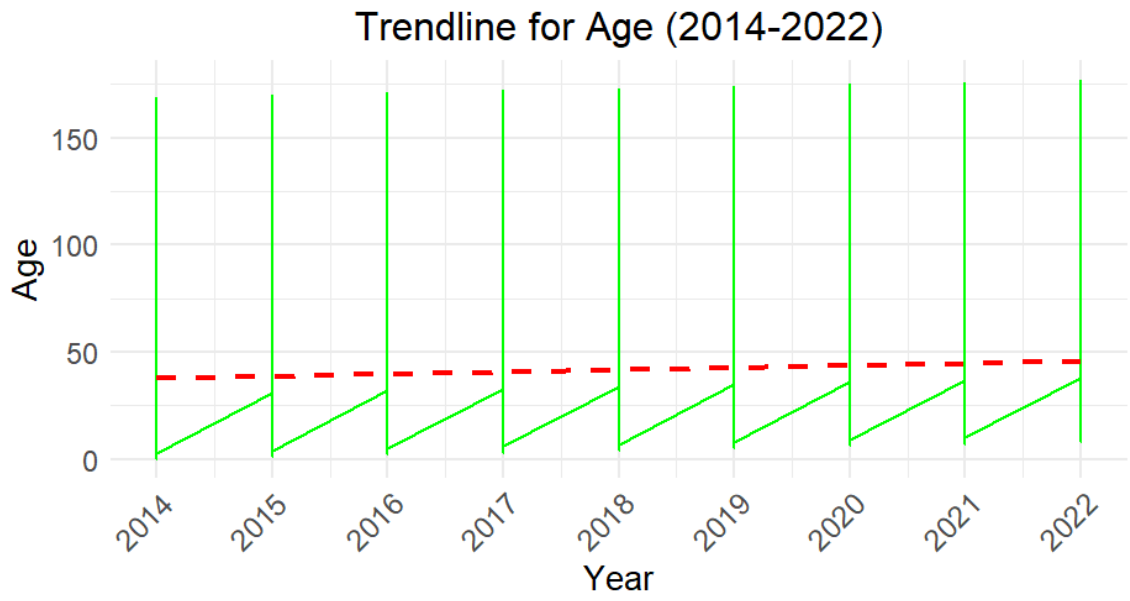
APPENDIX V: RAW DATA



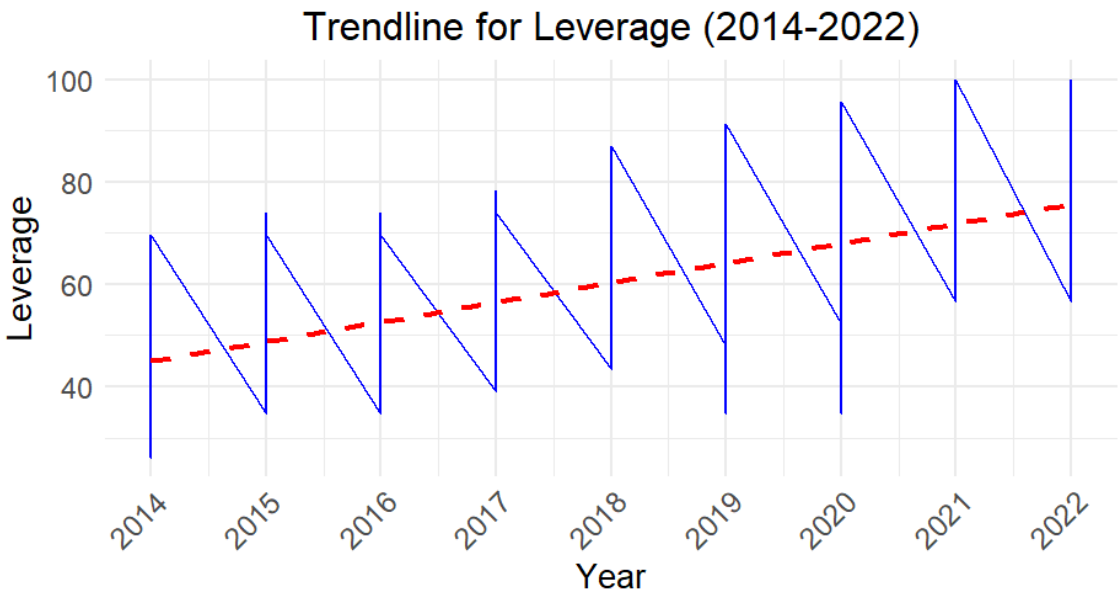
Appendix 5.1: Trendline for Board Structure in Kenyan Insurance Companies (2014-2022)



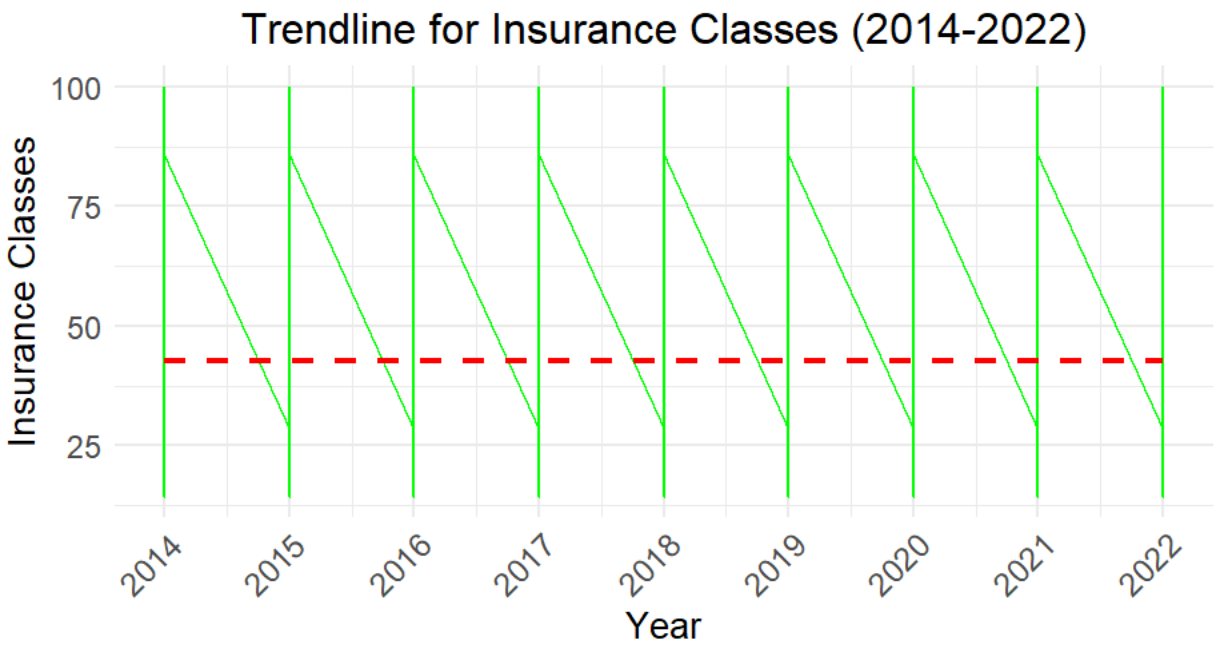
Appendix 5.2: Trendline for Firm size in Kenyan Insurance Companies (2014-2022)



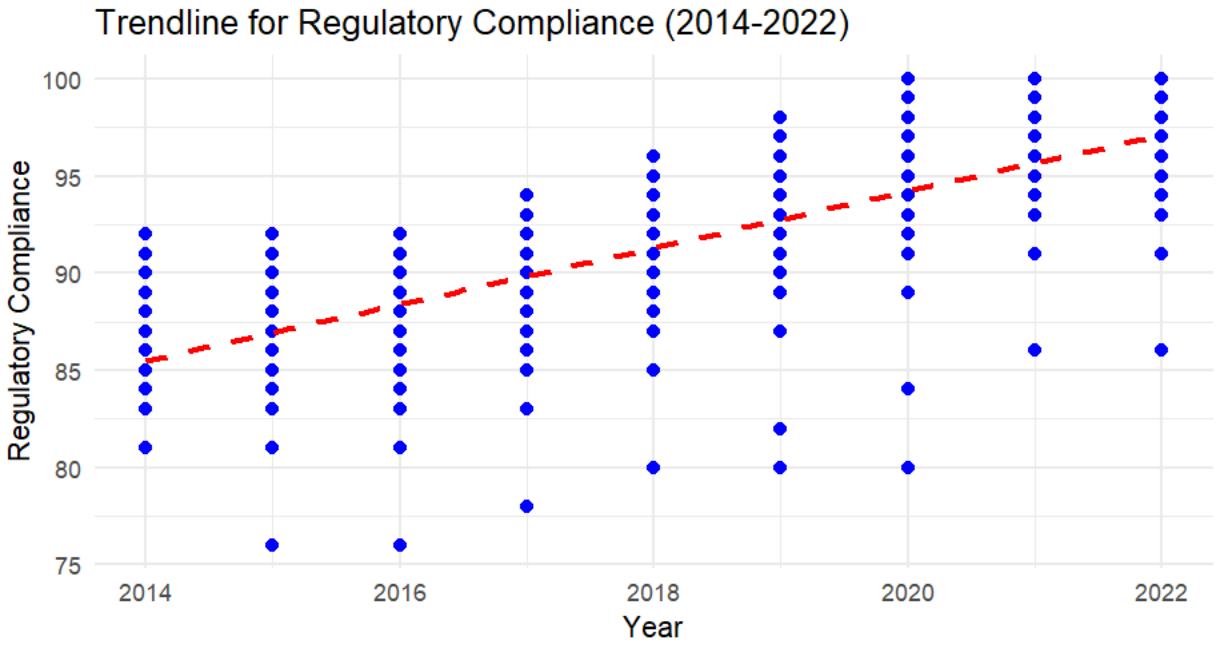
Appendix 5.3: Trendline for Age of Kenyan Insurance Companies (2014-2022)



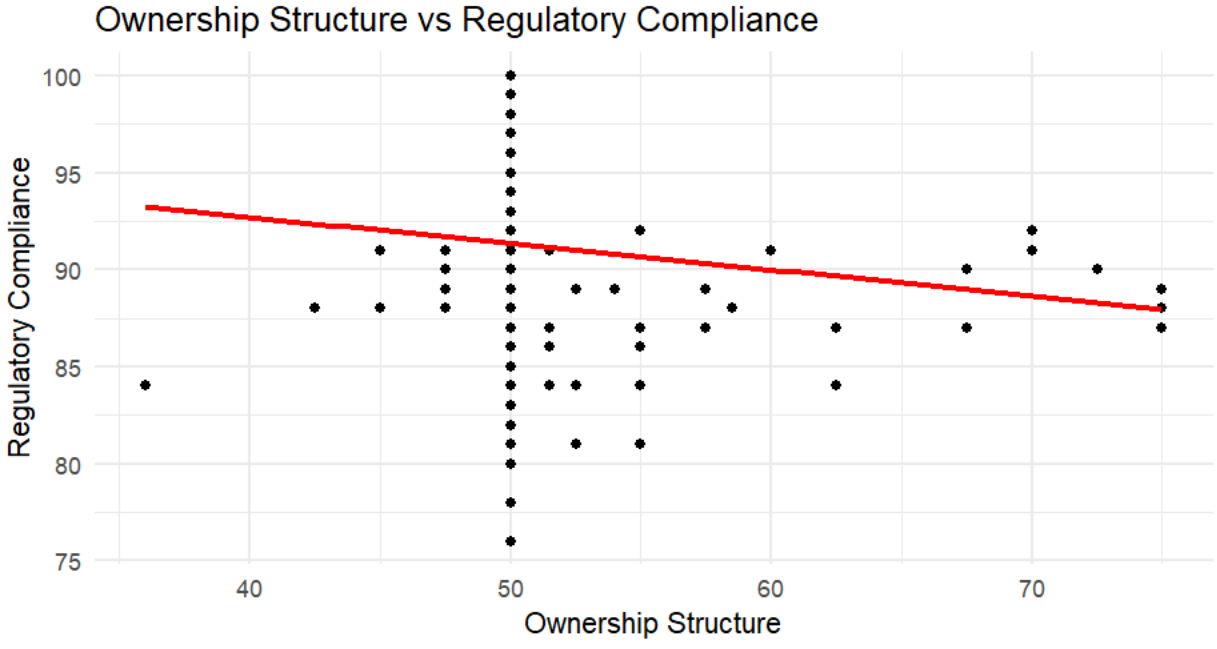
Appendix 5.4: Trendline for Leverage (Debt-to-Equity Ratio) in Kenyan Insurance Companies (2014-2022)



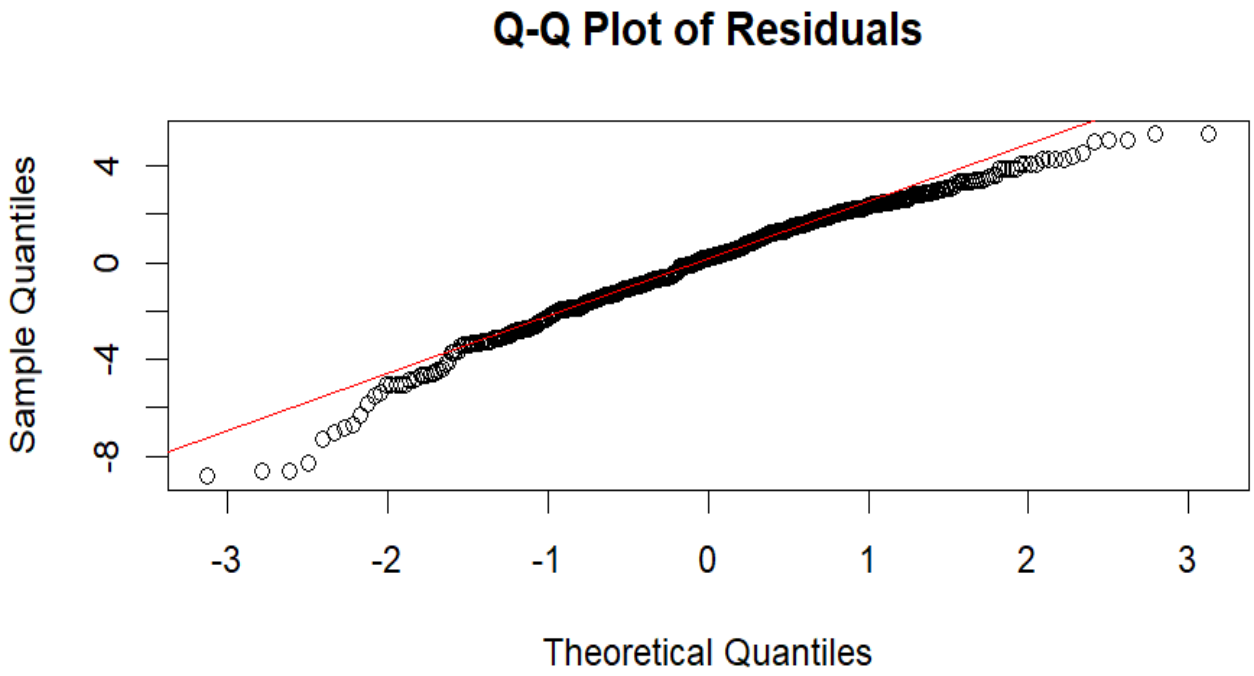
Appendix 5.5: Trendline for Number of Insurance Classes Offered by Kenyan Insurance Companies (2014-2022)



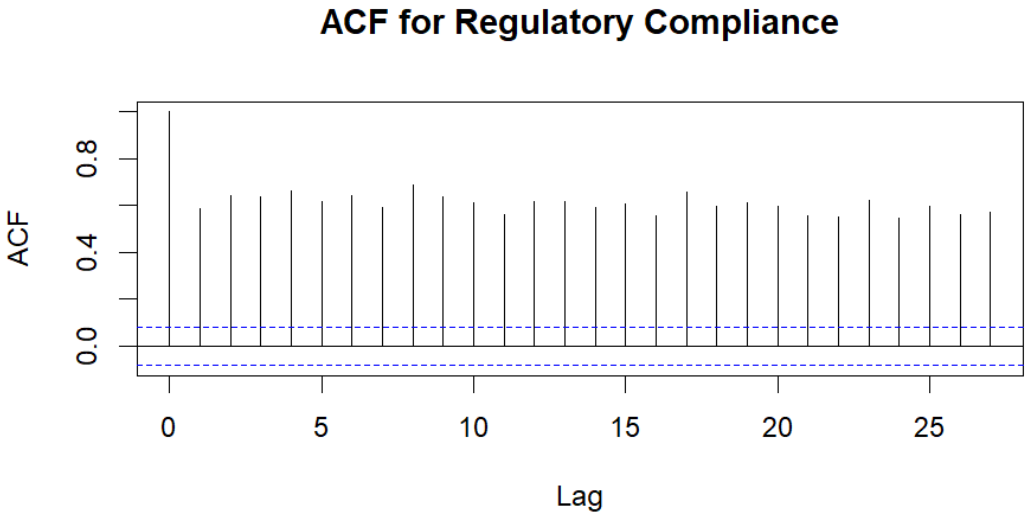
Appendix 5.6: Trendline for Regulatory Compliance Index in Kenyan Insurance Companies (2014-2022)



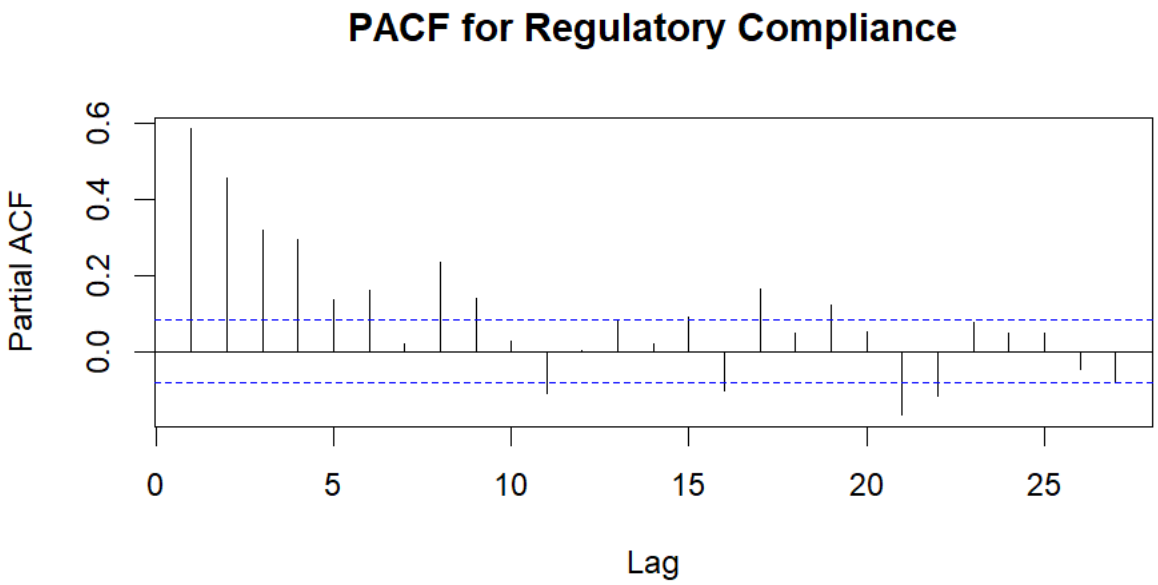
Appendix 5.7: Relationship between Board Structure and Regulatory Compliance Index in Kenyan Insurance Companies



Appendix 5.8: Q-Q plot showing the distribution of residuals against a normal distribution



Appendix 5.9: Autocorrelation Function (ACF)



Appendix 5.10: Partial Autocorrelation Function