CORPORATE GOVERNANCE, IDIOSYNCRATIC RISK, ECONOMIC FACTORS, AND VALUE OF NON-FINANCIAL COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

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DEDICATION

I commit this Doctoral thesis to the Catholic Church for the position it played in the foundation of my education life and to my late mother and father Erina Nabalayo and Alfred Buluma who gave me an academic inspiration to seek this academic qualification in my lifetime.

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ABBREVIATIONS AND ACRONYMS

CEO:	Chief Executive Officer
CFA:	Chartered Financial Analyst
CG:	Corporate Governance
CMA:	Capital Market Authority
CSR:	Corporate Social Responsibility
CSRC:	Securities Regulatory Commission
DSE:	Dhaka Stock Exchange
EF	Economic Factors
EMH:	Efficient Market Hypothesis
ESG:	Environmental Social and Corporate Governance
FTSE:	Financial Times Stock Exchange
GDPGR:	Gross Domestic Product Growth Rate
IFC:	International Finance Corporation
IMF:	International Monetary Fund
IPO:	Initial Public Offering
IR:	Idiosyncratic Risk
MPT:	The Modern Portfolio Theory
MSCI:	Morgan Stanley Capital International
NSE:	Nairobi Securities Exchange
NASI:	Nairobi Security Exchange All Share Index
NFLCs:	Non-Financial Listed Companies
NPM:	Net Profit Margin
OECD:	Organization for Economic Co-operation and Development
PBV:	Price to Book Value
RDT:	Resource Dependency Theory
ROA:	Return on Assets
ROE:	Return on Equity
SEM:	Structural Equation Modelling
VECM:	Vector Error Correction Model
WTO:	World Trade Organization

ABSTRACT

The value of non-financial listed firms on the Nairobi Securities Exchange was investigated, as well as its relationship with corporate governance, idiosyncratic risk, and economic factors. The study specifically sought to ascertain how listed non-financial companies' values are impacted by corporate governance. The intervening, moderating, and joint effects of idiosyncratic risk and economic factors, respectively, were investigated to establish the relationship between corporate governance and value among non-financial listed companies on the Nairobi Securities Exchange. This study created a framework based on agency theory to investigate whether corporate governance increases the value of non-financial listed companies when idiosyncratic risk and economic factors are considered. Between 2010 and 2019, a deliberate sample of 29 businesses was investigated, accounting for 62% of the 47 non-financial listed businesses on the Nairobi Securities Exchange. Secondary data with 290 firm-year observations were drawn from the Capital Markets Authority's database, the Nairobi Securities Exchange's trading data used for idiosyncratic risk data, the Central Bank of Kenya's database, and the Kenya National Bureau of Statistics database of economic factors statistics. To quantify corporate governance, a composite index of independent directors, gender, ownership concentration, director board meetings, and audit committee meetings was developed. The non-financial listed firm value was estimated using Tobin's Q, a market-based measure. Descriptive statistics were generated to establish the primary characteristics of independent research variables, and diagnostic tests were run to determine whether independent variables were statistically and substantively appropriate. To investigate the relationships, the hypotheses were tested using multiple regression panel data analysis and Pearson's Product Moment Correlation analysis. A random-effects model in Stata 13 was used to examine the relationships between the 3,480 data points for 29 non-financial companies registered at the NSE in the previous 10 years (2010–2019). The null hypotheses one and two for the direct and intervening effects of corporate governance and idiosyncratic risk on the value of non-financial firms listed on the NSE, respectively, were not rejected, according to the study results. The third and fourth hypotheses were rejected because economic factors moderated and idiosyncratic risk intervened respectively on the relationships between corporate governance and the value of listed non-financial firms on the NSE. Many studies have focused on corporate governance and company value while ignoring the moderating effects of economic factors as well as the intervening effects of idiosyncratic risk, so this study filled a gap in the finance literature. Furthermore, because the majority of corporate governance research has focused on industrialized economies, this study's finding contributes to the knowledge gap in a growing economy. The finding that corporate governance has no relationship with the value of non-financial firms based in Kenya is critical because it can reduce a company's ability to produce value and pave the way for financial fraud in publicly traded firms. Therefore, the CMA, NSE, and Kenyan government can use the study's findings to guide regulatory processes and evaluate current corporate governance requirements for listed firms.

CHAPTER ONE: INTRODUCTION

1.1 Background

A company's primary objective is to build a high firm value in order to improve welfare by enhancing shareholder wealth. The maximization of shareholder wealth is largely influenced by factors such as: corporate governance (CG), idiosyncratic risk (IR), and economic factors (EF). Good CG is crucial for raising a company's market value, while higher idiosyncratic risk lowers a firm's value by raising the risk of bankruptcy (Shleifer & Vishny, 1997). Manager's primary responsibility is to maximize the firm's net value of invested capital, which is equivalent to maximizing the firm's net present value. Idiosyncratic risk is an important aspect of operational efficiency for companies to achieve in the relationship between idiosyncratic risk and corporate governance. Furthermore, market value is not easily maximized due to the element of uncertainty brought by dynamic and difficult economic factors.

In industrialized market economies, good management through corporate governance has been sought for decades to steer strategic decisions, and it is gradually catching up with policy ideas in underdeveloped countries. A slew of high-profile firm failures scattered the provable landscape of CG. For example, in the mid-1990s, the collapse of Barings Bank and the Maxwell group, which devastated the annuity resource of the mirror group of publications, were two further financial disasters. The dramatic fall of Enron in the United States, Vivendi Universal's section 11 in France, Parmalat in Italy, Société Générale's business extortion, and Bernard Madoff's multibillion-dollar ponzi scam were all shocks that prompted governments and firms to rethink corporate governance (Jones, 2011).

The presence of firm idiosyncratic risk was explained by a lack of adequate corporate governance in the aforementioned financial scandal-plagued firms. The lack of competent corporate governance was a crucial component of the bad governance blamed for the sovereign debt crisis of 2007-2008, which led to the loss in value of publicly traded firms. The blame was further placed on corporate scandals involving unethical behaviour by employees working for or on behalf of a company. Corporate scandals surprisingly date as far back as 1494 and still to a date shake both developed and developing economies (Camfferman, & Wielhouwer, 2019). Financial scandals and crashes at well-known developed economy multinational firms such as the USA particularly that of Enron and WorldCom occurred in 2001. Since then, scams involving corporate governance have become common in both developed and emerging nations. Concerns regarding investor safety and confidence in publicly traded companies have risen due to recent corporate crises, calling for amendments in corporate governance codes governing listed firms in different economies (Duke & Kankpang, 2011). In this context, corporate governance has become a buzzword in securities market trading as well, and in conversations about economic growth and idiosyncratic risk, which is quantified using securities price data.

Corporate governance is critical during the funding stages of a company and has direct ramifications for its ability to obtain funds from outside sources (Rejeb & Missaoui, 2019; Claessens & Yurtoglu, 2012). The unabridged topic of corporate governance in corporate organizations continues to be a significant concern of policymakers, particularly in terms of how directors review and manage their companies. In providing the theoretical basis for corporate governance, agency, modern portfolio, stakeholder, efficient market, resource dependency, and institutional theories are inextricably intertwined. Corporate governance is linked to

agency theory because CG emphasizes the importance of having good corporate mechanisms that assure lenders that they will receive rewards for their investments (Shleifer & Vishny, 1997; Jensen & Meckling, 1976). However, corporate governance is linked to modern portfolio theory (MPT) because it explains the relationship between portfolio risks and returns. Other critical considerations include returns, risks, and covariance with more invested resources (Boatright, 2011; Markowitz, 1952). Furthermore, the stakeholder theory states that in order to increase value, firms must maintain positive relationships with their stakeholders (Kock et al., 2012). The resource dependence theory (RDT) affirms that agencies ought to respond to the needs of external actors or organizations that distribute securities or materials to the firm (Pfeffer & Salancik, 1978). The efficient market hypothesis is related to corporate governance in that an investor will have no occasion to benefit excessively as a result of new information because markets are efficient (Nikbahkt, 2006). Shah Saeed Hassan Chowdhury (2021) suggested that only the unexpected portion of idiosyncratic volatility influences stock returns and those investors do not price for expected idiosyncratic volatility. Overall, they found that the first lesson for investors was that they should not entirely dismiss the influence of idiosyncratic volatility on stocks and should take market sentiment into account when predicting the cross-section of stock prices. As a result, regulators should encourage companies to go public in order to provide investors with more information and opportunities to diversify their portfolios across industries. According to institutional theory, investors and other external players are becoming more conscious of the significance of institutions in overseeing the corporate governance of companies (Aoki, 2001).

The collapse of the Enron corporate firm resulted in internationally accepted recommendations that listed firms be controlled and works within corporate

governance norms. Enron's failure was caused by a conflict of interest on its board of directors, which was revealed through the concept of market efficiency, and publicized irrational corporate behavior. Firms with an excellent financial structure attract investors from all over the world, but if the market is not as predictable and stable as it may be, investments may be deterred. The outcomes of the Enron case may be compatible with Berle and Mean's (1932) agency theory, which states that management concerns arise from information obtained by owners. An efficient financial framework draws investors worldwide, but if the market is not as predictable by specific firm managers, investments in specific firms may be discouraged. Owners make decisions based on public market data, which impacts the control of firms, resulting in a relationship between CG and idiosyncratic risk.

Enron's financial catastrophe informed business leaders worldwide about the dangers of inadequate corporate governance and opportunistic behaviour in publicly listed firms. Bad corporate governance results in decline in the number of resources investors are willing to position in financing any firm and has a direct negative effect on a country's economic growth (Fu, 2008; Ferreira & Laux, 2007; Campbell, Martin, Malkiel & Xu, 2001). To put it another way, governance is concerned with ensuring that management and shareholder interests are aligned, allowing outside resources to flow into the firm, and ensuring that investors take a profitable return. The notion that bad CG can have far-reaching economic consequences is not limited to developing countries, as corporate failures (such as Enron); excessive profit raising (WorldCom); managerial corporate plundering (Tyco); accounting fraud (Arthur Andersen); and overstated share performance reports (by "independent" investment analysts) all contributed to the early 2000s investor confidence crisis (Acharya & Volpin, 2009).

Investment decisions are influenced by economic factors such as productivity growth, interest rates, and inflationary costs. Firms that practice effective corporate governance may be able to attract more money for investment purposes using the guidance of economic factors. This monetary expansion can boost long-term economic growth by directing capital to more productive uses, smoothing individual firm and family demand, and allowing more firms and individuals to borrow for potentially high-return investments. Expansion of an already large financial sector, on the other hand, could stifle growth by misallocating capital to low-profit projects, exacerbating the economic costs of too-big-to-fail and other government guarantees, and causing boom-and-bust cycles that lower long-term output levels.

In general, well-governed companies contribute more to economic growth because they are secure, sustainable, and capable of paying regular profits to shareholders and employee compensation while also increasing investor confidence in the capital market. In addition to helping to achieve economic growth, corporate governance is crucial for spreading the positive consequences of growth throughout society (OECD, 2021). Prior research has yielded conflicting results regarding the relationship between GDP growth and corporate investment levels; however, determining the direction of the net effect of GDP growth has proven to be difficult, while interest rates have been shown to have a ripple effect throughout the economy (Denk, & Cournède, 2015).

Interest rate cuts are designed to promote and encourage current economic activity. However, they may have unintended repercussions for securities, bonds, and other investments that corporate managers must deal with which play a significant role in firm corporate investment decisions. Higher interest rates deter investment and

consequently reduce the output of goods and services since they raise the cost of borrowing and necessitate a higher return on investment to be profitable. Corporate executives make sound investment decisions based on the company's present revenues. Security prices are influenced by both macroeconomic information, such as monetary policy announcements and interest rates, and firm-specific information, such as the firm's performance and corporate governance. The publication of clear, high-quality information, as well as efficient corporate governance procedures, is required for information about higher or lower security prices (OECD, 2021). Current inflation rates may be (partially or totally) related to the company's net revenues. However, inflation can be advantageous to a firm if it exceeds expectations and debt is not entirely adjusted, lowering the loan's real face value. These economic factor elements can determine output in an economy, firm revenues and profits, dividend payments, and firm value (Wahla, ShahSyed & Hussain, 2012; Bebchuck et al., 2009; Burke, 2008; La Porta et al., 2002). Finally, management should use the firms' current inflation costs in the economy as a key indicator to enable them to exhibit or have a clear image of their improvements in security performance (Olarewaju; Mbambo & Ngiba., 2020). Finally, it can be seen from the preceding analyses that CG, idiosyncratic risk, and the economic factors are all important determinants of business value and overall economic growth.

The ability of a corporation to increase shareholder wealth determines its value (Bistrova & Lace, 2012). The market price of the company's securities, the liquidity value of its ordinary and preferred shares, its debt, and its total assets are all indicators of its value. The book value and market capitalization of the company, which are derived from its equity, are additional measures of value (Hirdinis, 2019). Investors

are interested in companies that provide value (Lonkani, 2018). This can be explained by the fact that when the firm values of many companies were declining, ostensibly as a result of corporate scandals, it prompted the emergence of corporate governance in the West, particularly in the United States (Cheffins, 2015). This study looked at how combined corporate governance, idiosyncratic risk, and economic factors affect the value of non-financial listed companies. First, because managers can easily advance their own interests, a fundamental component of corporate governance and the idiosyncratic risk nexus is that corporate governance law and agency theory strives to prohibit opportunistic managerial behavior and excessive risk-taking. It also sought to comprehend the relationship between economic factors and the value of non-financial firms listed on the NSE, as economic factors are among the external risk factors that influence the growth and performance of securities markets and are critical to any country's economic development.

Companies can raise capital for their investments by using the securities markets as intermediaries. This is why, in the aftermath of the Asian and global financial crises, a significant impact on equity markets and economies around the world was felt, increasing the importance of economic factors in the economy and the relationship between economic factors and securities exchanges in investment decisions. This was also after a significant loss of wealth to shareholders as a result of sharp declines in stock values, which in 2007 amounted to nearly 50% of global GDP (Bartram and Bodnar, 2009). According to Chow et al. (2018), the uncertainty of economic factors significantly complicates the firm's resource allocation decisions. According to Shakina and Barajas (2014), some companies were able to survive the global financial crisis and produce better results. Because the presumption implies that managers may

be unaware of how and to what extent economic forces and firm-specific factors influence company performance, this argument was used in this study. Finally, this study looks into corporate governance and value, which have traditionally been thought to be mutually exclusive (Merton, 1987; Fu, 2009).

Furthermore, corporate governance encourages managers to be more cautious for a variety of reasons, including the avoidance of criminal charges and career concerns, which is why idiosyncratic risk is assessed. When firm-specific uncertainty increases, this may cause managers to underinvest (Panousi & Papanikolaou, 2012). Consequently, this study combined corporate governance, idiosyncratic risk, economic factors, and value to fill gaps in the finance literature on the value of non-financial listed firms and provide relevant suggestions and recommendations for decision-makers, policy-makers, and those with access to improving corporate governance.

1.1.1 Corporate Governance

Corporate governance is a technique for directing and controlling companies. It involves setting company goals, deciding how to achieve them, and evaluating accomplishments. This direction and control can emanate from both within and without firm. Internal CG refers to how a firm's internal organs regulate and administer the firm. External corporate governance may well be considered the substrate concentration imposed on a firm by the takeover market in a particular way (Hopt, 2021). There is no universally acknowledged definition of CG due to differing governance legislation and cultural differences between countries (Solomon, 2010; Armstrong & Sweeney, 2002). As a consequence, a corporate management guiding concept is essentially a set of guidelines for any board of directors on how to manage,

operate, and oversee a company's operations (Mulili & Wong, 2011). This concept is broad and was used in this study because it encompasses the internal recommendations and strategies that companies use to address the needs of stakeholders and investors.

Corporate governance establishes clear guidelines for corporate responsibility, objectivity, and integrity, all of which are crucial at all levels of the business. Businesses that successfully implement good corporate governance will be well-run, have constant access to finance, and outperform their less successful competitors (OECD, 2014). Additionally, businesses with good corporate governance experience lower business risks due to improved accountability, which reduces the possibility of dishonesty or self-dealing on the part of management (IFC, 2012). Long-term investment conditions will be developed when company management and executive oversight performance improves, assisting investors in maximizing their capital.

Investors view companies with poor corporate governance as inefficient, making it harder for them to access capital markets (Shleifer & Vishny, 1997; La Porta; López-de-Silanes, 2002). In the foregoing context, the essential aspects of CG are risk management and control, with operational, financial, and cyber threats being the most serious. In addition to internal controls, the management board is accountable for the organization's long-term plans and objectives (Ferry, 2018). Finally, this study concluded that the board should have a reliable system in place for appointing firm management to track the company's risks.

If a firm desires to access money at a lower cost, the company's board must ensure that high standards of governance are met, especially in obtaining debt to fund

operations. Borrowing rates are influenced by the quality of CG and the quantity of risk that shareholders assign to a publicly traded company. The cost of capital will be considered higher in cases where significant investor rights violations have occurred, for example (Fu, 2008; Klapper & Love, 2002). According to research conducted in the twenty-first century, good corporate governance promotes long-term business sustainability, enhances securities market prices, and raises firm financial value. Any flaw in corporate governance processes can lead to more outstanding agency issues, ineffective boards, higher finance costs, and poor management decisions, all of which reduce the firm value (Misangyi & Acharya, 2014). Corporate governance's principal purpose is to make sure that management decision-making procedures maximize firm value and benefit shareholders as much as possible (Cheung & Chan, 2004).

The CMA issued the state of CG for public issuers of securities in Kenya for the fiscal year ending June 2020. The goal of the report was to create awareness of the state of good corporate governance among issuers while tracking performance, empowering investors and boards of directors to encourage continual improvement in standards. According to this report, issuers' weighted total score in applying the CG Code has increased year over year, with 2019/2020 scoring 72 per cent, up from 61 per cent in 2018/2019 and 55 per cent in 2017/2018. Commitment to Good Governance was ranked first among the seven principles outlined in the CG Code, while the other principles improved (CMA, 2020).

1.1.2 Idiosyncratic Risk

Idiosyncratic risk, which is unique to a single asset rather than the portfolio as a whole, can also be caused by firm-specific shocks or disasters such as natural

disasters, equipment or infrastructure failures, or labor disputes (Xu & Malkiel, 2003). Analyst reports and predictions can all influence firm-level idiosyncratic risk, as can the existence and dissemination of specific information relevant to the firm, as well as the degree of voluntary information exchange (Ferreira & Laux, 2007). These idiosyncratic risk sources result in the unpredictability of a firm's earnings and security prices, which are unique to that firm (Fu, 2008; Wei & Zhang, 2006; Brealey, 1969). Idiosyncratic risk in listed firms has caused society and investors to be extra careful about inefficient, unproductive, and adversely functioning corporate management in today's investing climate (Vagneur, 2016; Weber, Weber, Nosi, 2012; Pandya, 2011; Burke, 2008; Cohen et al., 2008; Lai & Cheng, 2003).

Idiosyncratic risk emerges when a management board is insufficient or non-existent for organizing, managing, and analyzing risks that can reduce a company's value (Bali Cakici & Levy, 2008; Bali, Cakici & Zhang, 2005; Goyal & Pedro, 2003). Idiosyncratic risk refers to the fundamental cause of an asset's or a small group of assets' negative impact on a firm's value (Vozlyublennaia, 2013). Idiosyncratic risk, according to traditional CAPM, can be minimized by maintaining a well-diversified investment portfolio and so does not require a risk premium; as a result, it should not be rewarded by the market (Fu, 2009). On the other hand, most research has concentrated on only those aspects of returns that cannot be diversified and are thought to carry risk premia. In that respect, most empirical asset return research has focused on long positions, with short position portfolios receiving less attention.

Despite the fact that most studies show that this risk influences each security's risk variance over time, idiosyncratic risk is inherently unpredictable. As a result, the only

way for investors to reduce their investment risk is through diversification and hedging. Various studies have revealed that idiosyncratic risk is to blame for changes and uncertainty in individual security throughout time. This risk is created by the board's decisions on financial policy, investment strategy, and operations specific to a firm and securities. Firms and their securities each have their own set of risks that can be mitigated by employing the appropriate operating plans, financial standards, and investment strategies. Idiosyncratic risk arises in this regard if the board's role as a corporate governance standard setter is not properly carried out (Gordon & Pohl, 2011). Risk management is an important part of the board's operations because it helps the firm hedge against loss of value (Vagneur, 2016; Chanavat & Ramsden, 2013; IFC, 2012).

Ferreira and Laux (2007) opine that minimization of idiosyncratic risk and maximization of shareholder returns risk are all important aspects of good corporate governance. According to Fernando (2006), risk management is a critical board responsibility, and frequent evaluations are necessary to determine the efficacy of the firm's corporate management process. Therefore, understanding firm rates of return, price volatility, cash flow patterns, and firm value requires an understanding of idiosyncratic risk and how to manage it (Bartram, Brown & Stulz, 2009; Ferreira & Laux, 2007; Brown & Kapadia, 2007; Xu & Malkiel, 2003; Hamilton, 1994). Taking managerial risk aversion into account, Liu and Wang (2021) investigated investment, idiosyncratic risk, and growth options in the Chinese stock market. The study results were in line with the idea that firms' optimal response to uncertainty through corporate managers is primarily responsible for the negative relationship between investment and idiosyncratic risk.

Theoretical models such as EGARCH have incorporated both measurement and the idea of idiosyncratic risk, but they lack a straightforward mechanism for assessing it. The models suggest that the difference between what shareholders anticipated from the period's market performance and the actual return on the asset is the same. However, they do not explain how the market comes up with security variance estimates (Bali Cakici & Levy, 2008). Long used as a standard measure of idiosyncratic risk, the Exponential Generalized Auto-Regressive Contingent autoregressive conditional (EGARCH) models showed that asset returns affect volatility differently (Bali et al., 2008). However, there are shortcomings in the technique that have occasionally called into doubt the efficiency of EGARCH's idiosyncratic volatility predictions due to the out-of-sample performance of this family of EGARCH models. This has resulted in methodological issues, and it has been recognized that for the EGARCH framework to be helpful and reliable, many observations will be required (Lundblad, 2007).

The current study used the Fama-French 3-factor (FF3) to measure idiosyncratic risk instead of the EGARCH framework due to its inadequacies. The Fama-French 3-factor model outcome is currently used to measure the variance of the model residual to reflect idiosyncratic risk (Ang et al., 2006; Fama & French, 1993).

1.1.3 Economic Factors

Financial statements cannot clearly reveal economic issues. However, it is crucial that the management of the company investigate the impact of their uncertainty originating from the macroeconomic environment, particularly how they might more precisely affect their firm value, and engage in relative firm-specific risk management

practices and have the prospect of affecting firms' growth and value (Karakus & Bozkurt, 2017; Ramaseshan, Caruna & Pang, 2002). These factors are also referred to as states with the ability to influence firm performance (Mohd, 2005). These economic factors often inflicts constraints on the critical choices or strategies, challenges, and opportunities managers construct for their respective firms to attain financial value (Eloisa & Evandro, 2015; Wheelen & Hunger, 2012). External factors such as GDP growth rates, interest rates, and inflation rates, according to this study, had an effect on the value of non-financial firms, and the significance of such a result cannot be overstated. Consumer demand for items and services supplied by businesses is influenced by the rate of GDP growth. Accordingly, management often considers forecasts of the GDP growth rate in making decisions about critical resource allocation and plant expansions.

When it comes to new initiatives and capacity expansions, both inflation and interest rates can limit a company's strategic flexibility through corporate governance. The amount of money borrowed to allow the board of directors to make investment decisions in a corporation is affected by both the interest rate and the rate of inflation, and the two factors can cause unanticipated changes in the price of securities. Economic factors, therefore, do not only affect security returns, corporate profitability, firm value but also corporate decisions (Geske & Roll, 1983). Khan (2014) investigated the impact of economic factors on market returns in Pakistan between 1992 and 2011, including GDP growth, interest rates, and inflation rates. In this study, the value of securities was found to have a positive relationship with GDP growth rates, exchange rates, and inflation. According to the study, share prices also explained 80% of the variation in the independent variables. In a nutshell, the

economic factors had a considerable impact on corporate value, even though individual firms had minimal control over it.

The GDP growth rate measures the value and output of an economy, but such forces drive it as personal consumption and government spending, which is critical to jumpstarting the economy (Central Intelligence Agency, 2011; MSCI, 2010; Chen et al., 1986; Li et al., 2012). According to business management, inflation impedes decision-making by creating uncertainty about future prices and/or expenses and distorting economic values (Kettell, 2002; Bakshi & Chen, 1996). The inflation rate determines the proportion change within the price levels from the previous period, and it is critical in guiding a country's economic factors policy and by firm directors to form strategic decisions (Domick, Diulio & Bartley, 2003). Economic factors have been operationalized as GDP growth rates, interest rate, and inflation rate (Wheelen & Hunger, 2012: Cherunilam, 2009). Chang, Chen, and Dasgupta (2019) looked at how firms' financing decisions are impacted by time-varying macroeconomic conditions. Three phases of the business cycle in relation to recessions were characterized by their principal component decomposition of various macroeconomic variables: early recovery, robust recovery, and economic crest. A fourth phase, dubbed "windows of opportunity" in capital markets, which was unrelated to recessions, was also characterized by these variables. This definition led to several unexpected and intriguing findings, such as the fact that debt issuance during the upward part of the business cycle displayed a non-monotonic pattern, declined during robust recovery in comparison to recessions, and peaked at the economic crest. When the stock market was valued highly, financially constrained companies issued more shares, whereas

unconstrained companies timed the issuance of debt in response to spreads on the debt market.

Economic factors, according to Olweny and Omondi (2011), are variables that influence stock return volatility and company value, such as currency exchange rates, borrowing costs, and inflation rates. The country's economic factors have been very unclear, affecting firm performance in a variety of ways. The cost of borrowing has fluctuated, affecting board decisions and the ability to raise funds for activities. High equipment and machine costs resulting from currency or import cost deterioration, high price rises, and low people's income levels in Kenya resulted in unsteady demand for industrial goods, damaging the company's performance and value in many ways (CMA, 2020). These findings demonstrate the need for corporate managers to be familiar with economic factors in order to seize economic opportunities and develop strategies that are appropriate for the company.

1.1.4 Value of Listed Firms

High company performance encourages the growth of the company's stock price since investors will view it favorably as an indication to invest money. Rising stock market prices serve as a reflection of firm value and demonstrate that stock price rises or falls in the same pattern as firm value. The assumption that investors are rational is a key component of the assessment (basic valuation) that this study makes. This is so because the stock's value reflects the firm's value, which is more significant than just the intrinsic value of the present moment and instead emphasizes the company's potential to grow the value of future prosperity. The focus of this study was on the essential elements that are frequently considered to be micro-important components that affect the price of security. Likewise, the difference between realized earnings

(profit) and anticipated earnings determines the value of a firm, and the difference between realized earnings (profit) and predicted earnings determines the price (Ararat; Black. & Yurtoglu, 2017; Rouf, 2012). Since investors want to make as much money as possible, management's responsibility should be to maximize the return on their investment and the firm's worth. Different value indicators are required by different stakeholders in firms' investment decisions in order for them to make informed decisions. Shareholders need information on a company's profitability, growth, and financial sustainability when making investment decisions (Lishenga, 2012).

Share prices reflect firm values and provide insight into how listed companies manage risks and uncertainties in environments determined by various external events that are more difficult to predict (Cheema & Din, 2013). Strong corporate governance is essential for firms to be profitable because the quality of a company's board of directors' monitoring and decision-making powers influences its value. Profitability is a company's ability to generate profits through efficient resource allocation, and it has been used to denote firm value in several studies. Investors view a company's profitability as a key indicator of their investment performance since it shows a growth in the investment's worth. High CG compliance has been proven to be the only way to increase business value, possibly leading to higher shareholder returns and fewer executive-shareholder conflicts (Herdjiono & Sari, 2016).

Good governance is inextricably related to sound investment decisions that boost share prices and a firm's value (Cheema & Din, 2013; Bosse et al., 2009; Shelton, 2005). In this study, the firm's security price was a reference point for shareholders making investment decisions, and investors were willing to pay a premium for

securities in a company with strong stock market performance. Firm value, or shareholder wealth, was commonly referred to as the market price of the firm's shares since it rose in complete agreement with the share price, reflecting the actuality of investors' prospects. As a result, management, policy, working conditions, and corporate ethics all influence the value of a company (Miles & Covin, 2000). The company's good management, operational regulations, working conditions, and business ethics can all contribute to efficient and successful responsibility fulfillment, resulting in high profitability and share values above book value. As a result, the greater the price to book value (PBV), the more valuable the company is in terms of cash invested by relative investors (Barney, 1991).

Instead of accounting metrics of performance, which are skewed and cannot account for systematic risk changes, this study used market measures of company value. Accounting metrics in research and development, inventory valuation, and advertising also fail to account for temporary disequilibrium effects, tax legislation, and accounting standards and are more likely to fluctuate between industries than within firms. Finally, accounting-based performance metrics were excluded since they introduce a bias favouring industry effects in the estimation process (Wernerfelt & Montgomery, 1988). As a market measure, by utilizing the proper risk-adjusted discount rate, imputing optimal returns, and using the suitable risk-adjusted discount rate, Tobin's Q reduces tax and accounting standard distortions. According to a number of prior researches, Tobin's Q is considered to be a far more accurate predictor of firm market value than accounting-based performance metrics (Wolfe & Sauaia, 2003).

According to Barney (2007), Tobin's Q has advantages over accounting-based output indicators because it is determined without accounting profits, is sensitive to novel accounting techniques, and management cannot easily influence earnings and investment decisions. Tobin's Q was used in this study to quantify the present value of future cash flows based on current and future values, as well as to quantify a company's value based on security prices (Surya, 2016; Shah & Hussain, 2012; Ganguli & Agrawal, 2009; Campbell & Minguez Vera, 2008).

1.1.5 Non-Financial Firms Listed at the NSE

Nairobi Securities Exchange, Kenya's sole securities exchange, was founded in 1954. It has trading facilities for both local and international investors seeking investment opportunities in Kenya. The Nairobi Stock Exchange (NSE), demutualized in 2014, is governed by Kenya's Capital Markets Authority. The corporate governance codes apply to Nairobi securities exchange-listed companies. Authority for Capital Markets (CMA) is a government-owned institution that ensures fair and efficient capital market operations. In 2019/2020, proper application of the CG Code increased to 72 per cent, up from 61 per cent in 2018/2019. The dedication to good governance improved the seven CG Code principles, compared to the other CG aspects, which only improved somewhat (CMA, 2020).

On the other side, the NSE is in charge of listing, delisting, and regulating listed companies in Kenya. The Nairobi Securities Exchange has now implemented direct listings, removing the need for an intermediary and allowing firms to acquire capital and go public without the trouble and cost of a traditional IPO. The Nairobi Securities Exchange (NSE) is a critical player in Kenya's economic development, promoting

savings and investment and supporting local and international firms in getting low-cost financing. The NSE had 65 firms listed as of December 2019, with a total market capitalization of $2,539.98 billion (CMA, 2019). In July 2015, foreign share ownership restrictions were lifted, and foreigners currently own more than 75% of NSE-listed firms. Corporate governance guidelines are established and enforced by NSE to ensure that board management and supervision, shareholder rights, stakeholder interactions, values and moral obligations, accountability, audit and risk audit, openness and transparency, and oversight and compliance all covered under corporate governance are effected (Higgins, 2012).

The Nairobi Securities Exchange (NSE) is a financial and non-financial securities exchange. Financial firms, for example, commercial banks and insurance firms, provide financial intermediation services, whereas non-financial companies do not. Financial firms are excluded from this study since they provide leverage and other loan services to non-financial firms (Santos, 2001). Non-financial firms provided information on non-executive directors, female board members, ownership patterns, board duties, audit committees, and firm value. The research covered a period when the country's economic factors were very unfavorable, successfully providing enough data on the worth of the NSE's non-financial listed companies. Among them were increased borrowing rates, a weakening currency, and rising import fees. Inflation was high, and people's incomes were low, resulting in erratic demand for firms' goods and services (CMA, 2020).

1.2 Research Problem

Shareholders participate in publicly traded firms with the primary goal of increasing their wealth as measured by dividends and return on investments. The security market

price, which serves as a proxy for the company's value and depicts the company's potential for future growth, is one of the primary considerations for shareholders (Wu & Xia, 2016). The Capital Market Authority's regulatory framework and the NSE's stringent reporting scrutiny are critical in providing corporate share price information of companies listed and demonstrating their value as information provided to the investing public (M'Ithiria & Musyoki, 2014). The key to understanding this data from the CMA and NSE is market capitalization, which helps potential investors to comprehend the genuine value of enterprises and how big each one is in comparison to the others. Since it displays what the market is willing to pay for the shares, it aids investors in predicting the future success of a company's securities (Su, Fei, & Lei Wang, 2019).

Market capitalization-based reporting suggests that there was significant volatility in the value of listed companies between 2010 and 2019 at the NSE as follows (in billions of shillings); between 2010-2011 (1,166.99 to 868.24) indicating a value drop of 298.75Bn (from 868.24 to 1,272 in 2012); an increase of 403.76; (from 1,272 to 1,920.72 in 2013) increased by 648.72; (from 1,920.72 to 2,316 in 2014) increased by 395.28; (from 2,316 to 2,053.52 in 2015) dropped by 262.48; (from 2,053.52 to 1,913.61 in 2016) dropped by 121.91 (from 1,913.61 to 2,521.77 in 2017) increased by 590.16%; (from 2,521.77 to 2,192.02 in 2018) dropped by 419.75; (from 2,192.02 to 2,360.52 in 2019) increased by 258.50 in 2019 (CMA, 2020). These were significant reports of capital market capitalization volatility, and as a trade-off, higher volatility entails higher market risk for listed companies. Financial literature asserts that such volatility is primarily caused by uncertainty, which is influenced by adjustments to interest rates, taxes, inflation, and other monetary policies, but is also

influenced by adjustments to the economy as well as local, national, and international events (Su, et al., 2019). This study, which spanned the years 2010 to 2019, sought to determine whether these uncertainties had an impact on the market value of listed non-financial firms over a ten-year period.

Effective corporate governance has been shown to increase the value and profitability of the company it oversees by acting as a go-between for managers and owners in addition to authorizing and evaluating strategic decisions (Peng, 2015; Daly, 1999). Despite all of these good intentions, some listed companies continue to have local and international financial scandals and problems regarding non-compliance with corporate governance regulations for listed firms. Locally, since 2010, 22 listed companies have been placed in receivership, restructured, or delisted from the NSE (CMA, 2019). The main contributing factors included critical corporate governance firm-specific offenses like mismanagement, fraud, non-disclosures, and a lack of transparency to the investing public. An additional report on investments found that poor corporate governance had deprived Kenya’s listed companies' investors of Sh264 billion in recent years, with approximately 13% of listed companies having serious corporate governance difficulties (CMA, 2019). Financial and non-financial firms were both impacted, calling into question the effectiveness of securities exchange regulatory frameworks.

Furthermore, Kenya has a long history of poor corporate governance as a result of a lack of ethical conduct, investor protection, auditing and reporting standards, corporate director misconduct, management scams, insider dealings, conflicts of interest, and minority shareholder protection (Schwab, 2019; ROSC, 2019). Questionable firm-specific management investment decisions, such as unsustainable

expansions and high debt levels where losses of up to Kenya shillings 264.3 billion was identified among the listed firms (CMA, 2019). In 2019, 12 publicly traded firms issued profit warnings due to weak corporate governance, and six more faced significant profit losses. Ten firms broke the corporate governance rule on disclosure and adherence to acceptable corporate governance standards in the same year, while 17 companies did not wholly commit to good corporate governance (CMA, 2019). Furthermore, in the context of state and private business ownership, corruption, incompetence, and government subsidization of failing listed companies such as Kenya Airways and Mumias Sugar, among others, have been defining components of corporate governance issues (CBK, 2019). This is significant proof that, despite all efforts in reviewing corporate governance codes, some listed companies continue to have poor corporate governance procedures. This indicated persistent occurrences of corporate governance rule violations despite their modifications, which provided additional motivation for this study.

Furthermore, numerous studies have ignored idiosyncratic risk in favor of focusing solely on the effects of market risk on the relationship between corporate governance and listed company performance (Bachiller et al., 2016; Kahraman, 2011; Liu & Pang, 2009; Volker et al., 2009). The intervening effect of idiosyncratic risk, a crucial part of the corporate governance process, was taken into account in the current study since in contrast to market risk at the microeconomic level; it explains the vast majority of the change in the level of uncertainty surrounding a single security over time. Furthermore, many finance scholars have concentrated on accounting-based financial performance measurements rather than market-based performance indicators such as Tobin's Q, which determine how the market perceives a firm's long-term economic return on assets (Mannarino et al., 2016).

Several studies in modern economies have identified varied relationships between corporate management and publicly listed company value (Wester, Borders, Boul & Horton, 2013). According to Al'Matari et al. (2014) and Habbash (2014), differences in findings are due to diverse methodology, measuring techniques with varying specifications, sample sizes, and analysis estimating procedures. Using varied techniques, some studies found that CG has a potential beneficial effect on firm value in Korean, German, Swiss, and Indian listed companies (Balasubramaniam et al., 2009; Black et al., 2007). However, there are conflicting conclusions on the impact of CG on corporate value in both industrialized and developing economies (Bebchuck et al., 2009; Gompers et al., 2003). Inconsistent results have also been found when various study types, such as longitudinal, cross-sectional, time series, and panel studies, were used. In reality, even after employing both non-experimental and correlational study approaches, in industrialized countries, the relationship between corporate governance and firm value yields contradictory results (Obradovich & Gill, 2013). The relationship between CG and the value of NFLCs in developed and emerging markets has been investigated using a variety of corporate governance mechanisms, with mixed results (Bachiller et al., 2016; Ertugrul & Hegde, 2009; Larcker et al., 2007). Due to such conflicting results in industrialized nations, the current study was motivated to look into the relationships between CG and the value of NFLCs in an emerging market like Kenya that has a different micro and macroeconomic context.

When studying developing economies, background differences are likely to provide divergent outcomes. In a study of one selected sector, Ongore and Kusa (2013) found a positive relationship between economic factors, macroeconomic indices, and financial performance in the banking industry, but an inverse relationship when the

return on assets was considered. It is clear from the preceding discussion that corporate governance, idiosyncratic risk, economic factors, and firm value are all important concepts in the management and strategic decision-making of publicly traded companies.

Despite extensive research on concepts, theories, and metrics related to corporate governance, governance models, and principles, the pursuit for the best corporate governance, governance models, and principles still goes on (Brown et al., 2011). In light of the aforementioned conceptual and contextual issues, the current study investigated the relationship between corporate governance and the value of NFLCs in Kenya, taking into account the intervening effects of idiosyncratic risk and the moderating effects of economic factors. To meet the study's objective, descriptive and longitudinal research methods, as well as multivariate regression models, were used to investigate the effects. The following research question was used as a guide to accomplish the study objectives: Is there a relationship between corporate governance, idiosyncratic risk, economic factors, and the value of non-financial companies listed on the NSE?

1.3 The Study's Objectives

Examining the relationships between corporate governance, idiosyncratic risk, economic factors, and the value of non-financial companies listed on the NSE was the prime objective of the study.

The specific objectives were as follows:

i. To identify the relationships between corporate governance and the value of non-financial listed companies at the Nairobi Securities Exchange.

ii. To establish the effect of idiosyncratic risk in the relationship between corporate governance and the value of non-financial companies listed at the Nairobi Securities Exchange.
iii. To examine the effect of the economic factors on the relationship between corporate governance and the value of non-financial listed companies at the Nairobi Securities Exchange
iv. To establish the combined impact of idiosyncratic risk and the economic factors in the relationship between corporate governance and the value of non-financial companies listed at the NSE.

1.4 Value of the Study

The study's findings will greatly assist the Capital Markets Authority and the Nairobi Securities Exchange in closing governance procedural gaps, resolving conflicts over corporate governance principles, and developing governance policy. Corporate governance codes and the current CG legislation of 2015 will be strengthened and brought in line with international standards. Senior managers, policymakers, and practitioners will benefit from a better insight into the role of idiosyncratic risk and the interaction of economic and corporate governance factors in determining the value of listed non-financial companies.

These findings add to academic and research knowledge about the interplay between corporate governance, idiosyncratic risk, economic factors, and the market value of non-financial companies listed on the NSE. The study's finding that corporate governance and idiosyncratic risk have no effect on the value of non-financial listed firms calls into question the relevance of agency, modern portfolio, stakeholder, resource dependency, efficient market hypothesis, and institutional theories, as well as the role of agents in maximizing shareholder value. This study adds to the body of

knowledge by investigating whether regulations and governance principles are effective for use in the operations of NSE-listed companies, particularly with a gender perspective in which women are underrepresented on corporate boards. To fully comprehend this occurrence, more research on this component will be required.

This thesis makes a contribution by combining many distinct streams of research on the factors that affect the relationship between corporate governance and the value of publicly traded non-financial companies. The study confirms the agency theory, efficient market hypothesis, resource dependency theory, stakeholders' theory, and institutional theory, adding to our understanding of corporate governance, idiosyncratic risk, and economic factors. The results demonstrate that corporate governance is unrelated to the value of NFLCs listed on the NSE and that idiosyncratic risk has no bearing on the relationship between CG and NFLC value. This supports agency theory, stakeholders' theory, and institutional theory by demonstrating how agents do not always work to further the interests of the principals. Additionally, the study indicated that economic factors had a moderating effect on the relationship between CG and the value of NFLCs at the NSE as well as the joint effect of CG, IR, and EF in determining the value of NFLCs at the NSE, supporting the efficient market and modern portfolio theories. The results of the current study have been expanded to include the effects of idiosyncratic risk and economic factors on the relationship between corporate governance and the value of listed non-financial companies. Scholars will benefit from this new area of inquiry as it lays the groundwork for further research.

1.5 Organization of the Thesis

The following are the six chapters of this thesis: Overview, review of literature, methodology, quantitative method of data analysis, testing of hypotheses and interpretation of results, discussion of the findings, conclusions, and implications are all included in this report. Below is a detailed description of each of these chapters. In Chapter one, the study's central concepts, such as corporate governance, idiosyncratic risk, economic factors, and firm value, are introduced before a contextual argument on the corporate governance of listed firms on Kenya's Securities Exchange is provided. These elements served as the foundation for the research topic, hypothesis, research objectives, and study value and rationale. In chapter two, we discussed Berle and Means' (1932) agency theory, Markowitz's (1952) modern portfolio theory, Freeman's (1984) stakeholder theory, Pfeffer and Salancik's (1978) resource dependency theory, Fama's (1970) efficient market theory, and DiMaggio and Powell's (1991) institutional theory. The critical analysis of empirical research themed on the objectives was followed by a summary table of empirical investigations and an explanatory conceptual framework.

The study's research methodology was examined in chapter three, which covered the study's research philosophy, approach, data collection procedures, operational definitions of study variables, diagnostic processes, and analytic processes. Diagnostic tests, descriptive data analysis, normality tests, variable transformation processes, correlation and regression analyses were all covered in Chapter four. In Chapter five, the hypothesis tests of the study objectives, as well as the analysis and results, are presented. The hypotheses were tested and results regarding the relationship between corporate governance and value of non-financial listed companies, as well as the intervening effects of idiosyncratic risk and the moderating effects of economic

factors on the relationship between corporate governance and value, were discussed. Finally, this chapter discusses the effects of idiosyncratic risk and economic factors on the relationship between CG and NFLC value. The summary of findings, conclusions, and applicability of study findings to knowledge, management policies, and practices were all covered in Chapter six. It also discussed the study's shortcomings and future research opportunities.

CHAPTER TWO: REVIEW OF THE LITERATURE

2.1 Introduction

This section looked into the study's hypotheses, an empirical literature review emphasizing correlations between selected variables, identified gaps in the relationships of the study's variables, and generated a conceptual structure, representation, and research hypotheses.

2.2 Theoretical Foundations

Because a single theory cannot explain CG, it is necessary to combine theories to address social interactions, norms and laws, and severe enforcement, all of which are linked to good governance practices and go beyond mechanical explanations. It is vital that strong corporate governance be promoted holistically throughout the business sector since it provides a fresh viewpoint on corporate management. The corporate governance of different countries may differ depending on their political, cultural, historical, and social circumstances. In such cases, the governance of emerging and developed countries may differ depending on the economic and cultural perspectives of each country (Driffield, Mahambare & Pal, 2005).

This study focused on Berle and Means' (1932) agency theory. Modern portfolio theory (Markowitz, 1952) is another idea explored in this research. Freeman's stakeholder theory (1984), Pfeffer and Salancik's (1978) resource dependency theory, Fama's (1970) efficient market theory (EMT), and among others are DiMaggio and Powell's (1983) institutional theory. The following is a summary of the discussion. These theories are crucial to the research because they reflect the principles of governance procedures and how they impact company value.

2.2.1 Agency Theory

After recognizing that the interests of firm directors and managers differed from those of shareholders, Berle and Means (1932) proposed this theory. They explained how conflicts arise using the notions of agency and principal. Self-interest, goal conflict, limited rationality, information asymmetry, and superiority theory are five overlapping basic suppositions that underpin agency theory. The rise of these diverse interests, according to the proponent of this theory, prompted the need to focus on resolving this conflict. Since these disparities were difficult to quantify, they discovered that adopting corporate governance mechanisms may aid in resolving them and ensure risk sharing (Arrow, 1971).

The focus of agency theory was the conflict that emerged as a result of the disparities between principals' and agents' interests. Labour contract discrepancies, for example, which could be defective or not distinct enough to be accounted for, were the main sources of contention, rendering monitoring difficult and costly (Eisenhardt, 1989). The agency theory proposed a set of concepts for how a substantial majority of dispersed investors or owners could be managed by a group of people with the necessary professional skills. It focused on two issues: how to avoid conflict between principal and agent goals (the agency dilemma) and whether shareholder and director interests should be matched (Jensen & Meckling, 1976).

This concept was relevant to this study in understanding the appropriate corporate governance strategies as used by firms with distributed ownership and control so as to best manage the behaviour of agents (Bendickson, Muldoon, Liguori, & Davis, 2016; Jensen & Meckling, 1976; Ross, 1973). The ownership structure and behaviour of

business owners include a direct impact on agency asset pricing techniques by a firm. Jensen and Meckling's (1976) theoretical assumptions on agency theory took a different approach attributed to managers' and shareholders' risk aversion. They assert that managerial ownership of firms has more authority over decision-making, and risk-taking is more visible. The agency hypothesis exhibited the following problems, despite its logical character and extensive use in financial literature. First, the theory offers a specific or indefinite contract between the principals to engage jointly when future firm operations are unpredictable. Concerns like knowledge asymmetry, irrationality, fraud, and high transaction costs also call into question the notion that the agency problem gets solved in modern times when the agent and principal sign a contract (Shleifer & Vishny, 1997; Eisenhardt, 1989). Despite their minor impact, Daily et al. (2003) argue that the underlying focus of a company's shareholders is to maximize shareholder value. Finally, firm's directors' obligations are limited to overseeing the performance of opportunistic managers, independent of their qualifications or any other unspecified responsibilities.

The hypothesis has limited analytical scope, according to Shapiro and Susan (2005), because shareholders aren't the only ones who have a stake in publicly listed companies. According to Perrow (1986) proponents of agency theory focused more on the agents than the principals in the agent-principal conflict, yet the problem may also be attributed to the principles that have the power to influence, shirk, and exploit the agents. Likewise, Donaldson (1990) argues that agents are blindly drawn into agency actions, especially if the working environment is unpleasant, with no chance of promotion because the principals only act opportunistically in this situation. He believed that agency theory assumed agents were moral and dedicated to the success of the organization, which he claimed, was not always the case.

The agency theory evolved into stewardship theory as a result of its popularity in addressing the agency dilemma, the principal-agent conflict, agency costs, and repositioning both the principal and agent's interests. Changes in agency theory should have reflected the agent's motive, risk aversion, time preference, and equitable remuneration, according to this viewpoint (Pepper & Gore, 2012; Sanders & Wiseman & Gomez-Mejia, 1998; Sanders & Carpenter, 2003). The agent is the most important person in the principal–agent relationship, according to these scholars, because an agent has the capacity, incentive, and best opportunity to determine performance. In this study, this theory was used to investigate the relationships between different actions performed by independent directors and the value of NFLCs. One of the study's objectives was to examine the impact of independent and female directors' performance and duties on the value of NFLCs. It was anticipated that if there was a favourable relationship, it would enhance investor confidence, as well as the value of a firm. Their assumption was that well-governed businesses were less dangerous, more efficient, and had lower monitoring expenses, making them more valuable (Melis, Carta & Gaia, 2012; Daily., Dalton., & Canella, 2003).

The relationship between corporate governance and agency theory clarifies those in charge of overseeing the funds of the highly dispersed shareholders. It also indicates how, if ownership and management are separated, market forces can drive managers to maximize shareholder wealth (Aduda, Chogii & Magutu, 2013; Fernando, 2006; Fama & Jensen, 1983). In conclusion, agency theory was essential in assessing how existing corporate governance systems, risk management processes, and strategic decisions in a given economic factors conditions affected firm value. The findings are expected to contribute to the growing body of finance knowledge about the role of

agency relationships, shareholders, and boards of directors in improving shareholder relations with agents and firm value.

2.2.2 Modern Portfolio Theory

Modern portfolio theory, according to Bodie et al. (2004), is a point of view in which firms' historical performance across broad asset classes is compatible with risk-return trade-offs and investors must be compensated for taking risks. Investors choose higher-risk investments only if the expected compensation of returns is high in any economy (Markowitz, 1952). Investors are generally cautious, according to modern portfolio theory, therefore if two portfolios with the same expected returns are offered, they will always choose the less risky option. Extra risk can only be preferred if additional expected returns are provided (Markowitz, 1952). This theory was devised with the goal of securing an investor's risk tolerance by documenting acceptable risk for each given return, and it could be used to solve a range of decision analysis and strategy challenges in a firm. The MPT approach involves four basic phases, according to the theory: The first is security valuation, where the process of determining a group of assets' expected return and risk is undertaken. Second, it's used in asset allocation decisions, where managers decide how to distribute assets like securities and bonds among different investment classes. Thirdly, it demonstrates how to enhance ones portfolio, lower risk, and re-enter the market. Finally, when a security performance (risk) is divided into market-related (systematic) and industry/security-related (residual/unsystematic, company-specific or idiosyncratic) classes, performance measurement becomes easier (Brodie & Daubechies, 2009). The fact that systematic vulnerabilities are macro in nature, exist outside of a firm, and are uncontrollable by management supports this concept. This theory was used in this study in conjunction with considerations of optimal risk acceptance, expected return

balance and ultimately firm value to establish the best corporate governance for a given amount of risk.

The theory has been challenged on the basis that expected estimations usually fail to accept responsibility for new conditions that did not exist at the time the previous data was collected. Furthermore, investors, in particular, are at a loss when it comes to assessing key indications from historical market data because modern portfolio theory primarily considers risk in terms of the potential for losses without explaining how such losses occurred (Bhalla, 2010). Furthermore, this theory has been faulted for focusing solely on asset prices and risk-adjusted returns without taking into account market imperfections such as information asymmetry, externalities, corporate fraud, and dishonest accounting (Roll, 1977). Investment strategies are most typically required by investors making risky investments, according to McClure (2010), if the goal is to reduce total risk without lowering predicted earnings.

This hypothesis was also used to investigate the intervening effect of idiosyncratic risk on the relationship between corporate governance and the value of NFLCs. Idiosyncratic risk, on the other hand, is defined as a one-of-a-kind threat to a security or a company, and it typically refers to unanticipated positive or negative news about the firm or its industry (Boatright, 2011; Markowitz, 1952). This theory therefore, also contributes to the empirical discussion about the relationship between idiosyncratic risks, securities returns, and listed firm value. Portfolios with high idiosyncratic risk outperform portfolios with low idiosyncratic risk in industrialized capital markets (Fu, 2009; Malkiel & Xu, 1997). Ang et al. (2006, 2009) found a relationship between idiosyncratic risk and firm value as well. In the current study,

this MPT was used to investigate the intervening effect of idiosyncratic risk on the relationship between CG and value generation.

2.2.3 Stakeholder Theory

The term "stakeholder" was conceptualized by Freeman (1984) to describe how a corporation interacts with people other than its shareholders. Stakeholder theory, according to Freeman, Wicks, and Parmar (2004), seeks to strike a balance between a firm's stakeholders' interests and satisfaction. In a limited sense, the notion asserts that revealing the firm's responsibilities to its stakeholders will allow management to design and implement suitable policies. As a result, a distinct relationship between stakeholders and executives will be established, assisting in the achievement of set objectives (Freeman et al., 2004). According to Sanda, Garba, and Mikailu (2011), agency theory is enlarged in the context of the stakeholder principle to include a diverse range of stakeholders willing to support strategies that provide value to the firm. This approach emphasizes how stakeholders exercise their rights in a firm where they have made a financial investment.

According to the stakeholders' theory, firms are social units with the ability to influence the well-being of a variety of stakeholders interacting with the firm, and such interactions shape the attainment of the firm's goals (Donaldson & Preston, 1995; Freeman, 1984). Management decisions must utilize responsive or practical strategies that bring value to shareholders' interests when incorporating stakeholders' interests in the decision-making process (Kaptein & Van Tulder, 2003). When a company fails to include stakeholders in its policy decision-making processes, its goals and those of its stakeholders become at odds, forcing it to adopt a more responsive approach (Mackenzie, 2007). The emergence of scandals like Enron and

WorldCom was attributed to such practices (Currall & Epstein, 2003; Watkins & Marsick, 2003; Turnbull, 2002). That was one of the driving forces behind the Sarbanes-Oxley Act, which was enacted in response to financial scandals in advanced economies. As a result, governments were able to embrace the act and develop new and revised standards to reconcile stakeholders' interests with business activities.

Stakeholder theory, in essence, is the theoretical foundation for corporate governance rules, regulations, and laws (Adams, 2002). The stakeholder theory, according to de Wit et al. (2006), explains how organizations should incorporate stakeholders' interests into decision-making and create corporate governance frameworks. Two key takeaways from this theory on why the board should pursue an all-encompassing stakeholder broad corporate governance policy are as follows: First, the board should identify major stakeholder groups, recognize their legitimate interests and expectations in relation to the firm's strategic objectives and long-term viability. Second, all stakeholders must be involved in routine business operations by the directors and executives of firms. The firm's management should use corporate governance procedures and activities to supervise risk and control processes on behalf of the stakeholders. Risk factors and information asymmetry will be decreased as a result, resulting in increased company value (Gramling, Maletta, Schneider & Church., 2004).

Stakeholder theory's key notion is that it explains how corporate managers should understand their stakeholder settings and operate effectively within the nexus of their existing relationships with their companies. The goal of stakeholder theory is to assist company managers in increasing the value of their firms as a result of their accomplishments while minimizing the risk of failure (Logdson & Wood, 2000). The theory lays the groundwork for a type of corporate governance that prioritizes ethical

and common interests over profit maximization. The ethical setting of shareholder theory is severely limited because it focuses solely on management's responsibility to shareholders and company profit maximization. All stakeholders must contribute to the policies, processes, systems, controls, and agreements generated by legitimizing the firm's actions while using these resources to prevent and resolve conflicts of interest, according to the theory (Turnbull, 2002).

Stakeholder theory, in which firms implement firm objectives in response to stakeholder demand, is considered as a viable substitute to government regulation. This means that in order to set up a two-way communication system, businesses must consider the numerous stakeholders who are influenced by them. In practice, however, it is often difficult, if not impossible, to provide all stakeholder groups the same level of attention (Mallin, 2004). The stakeholder theory's flaw is that it doesn't adequately explain how stakeholders' interests are generated and encouraged in the general public. Furthermore, the theory provides a relatively rudimentary understanding of stakeholder interests and their ability to be bartered between enterprises and diverse stakeholder groups.

The concept has been demonstrated to be ineffective in identifying irrefutable shareholders who can protect shareholders' interests and deal with corporate governance malpractices perpetrated by agents who siphon wealth away from shareholders (Freeman, 1984). Additionally, the theory has been found ineffective in identifying indisputable shareholders who can secure shareholders’ interests and handle corporate governance malpractices by agents diverting wealth away from shareholders (Freeman, 1984). Lastly the theory does not recognize that there is a

close relation between economic undertakings and politics in society which in real sense are inextricably linked, and cannot be separated (Winstanley & Stoney, 2001)

This theory was applied in this study to investigate the relationship between CG and the value of NFLCs. The assumption was that stakeholders would be satisfied with the governance policies of the firm, resulting in the company's long-term viability. Following the establishment of a relationship between CG and the value of the NFLCs, it was also useful to evaluate the theory relevance. The value of effective stakeholder relationships is a key determinant to corporate policy development and enhancement of value of firms by lowering contract costs and increasing surplus creation when combined with economic factors factors (Lai & Cheng, 2003).

2.2.4 The Resource Dependency Theory

This theory was proposed by Pfeffer and Salancik (1978), who claimed that a firm's dominance is defined by its control over strategic resources. The theory explains how company boards bring value to firms by leveraging external resources (Abdullah & Valentine, 2009). This theory places a strong emphasis on the economic factors that influence a firm's ability to increase its value and resources (Pfeffer & Salancik, 1978). Firm value is a product of a combination of resources from the economic factors , such as information, skilled labour, capital suppliers, buyers, and public policymakers, based on the quality of CG (Bachiller et al., 2016; Acero & Alcade, 2014; Johannisson & Huse, 2000). Resource dependency theory focuses on relationships with the economic factors rather than interactions within the firm. It assumes that firms' behaviour can be rationalized by looking at it in the context of external constraints and controls (Acero & Alcade, 2014; Mudambi & Navarra, 2004; Pfeffer & Moore, 1980; Pfeffer & Salancik, 1978).

It is presumptively true that environmental determinism exists, and that listed firms' actions can be justified by taking external constraints and controls into account (Acero & Alcade, 2014; Mudambi& Navarra, 2004; Pfeffer & Moore, 1980; Pfeffer & Salancik, 1978). Resource Dependence Theory (RDT) is a broad term that refers to creating activities and making decisions that are influenced by the organization's external resources (Bachrach & Baratz 1977). Disparities in corporate management behavior may be attributed to management practices affected by outside and inside agents handling critical resources.

When firms become more dependent on other members of the environment for vital resources, a state of uncertainty arises, and RDT recognizes uncertainty as a significant organizational behaviour at this stage (Pfeffer & Salancik, 1978). The resource dependency theory is especially applicable in emerging countries, where fierce competition makes long-term operations and company survival critical. The idea focuses more on board of director qualities and how they can effectively mobilize external resources for effective firm management. Part of these resources includes human capital, where companies must hire people with necessary expertise to assess risks and increase the firm's worth (Cohen et al., 2008).

The resource dependency hypothesis has been criticized for failing to consider how firm value is created as a result of board decisions and internal management practices (Ovidiu-Niculae, Lucian & Cristiana, 2012). The theory was particularly useful in investigating the roles of independent boards of directors and how they relate to a firm through their competence and connections to other corporate institutions. Director's expertise can also bring value to a company due to their reputation, and board members can be a valuable source of human and social capital-based resources

(Pfeffer & Salancik, 1978). The resource dependence theory was used to evaluate corporate governance and the economic factors, with a particular focus on how a company's board of directors acquired and maintained major resources like capital to affect value of firms (Wang, 2009).

2.2.5 Efficient Market Theory

Fama (1965) proposed this theory, which provides key insights into enterprises' price-discovery processes. According to Fama, a competitive market with random price fluctuations melts into a fundamental value, indicating an efficient market, and hence qualifies for Random Walk Theory. The theory addresses fundamental financial concerns like price changes in assets on the security exchanges, which have considerable implications for investors and financial management. Among finance theories, the efficient market theory is widely investigated, and it states that financial markets are informationally efficient. Furthermore, there are many profit maximizers and price-sensitive investments competing in the market, all of which can adjust prices quickly in response to unexpected new information (Fama, 1970). According to the hypothesis, there are multiple well-informed and intelligent investors in a dynamic market who price securities to represent all available information (Blume & Durlauf, 2008). The market is efficient when asset prices fully represent all market information and investors cannot obtain a risk-weighted excess return (Eakins & Mishkin, 2012). In one sense, the theory aids in analyzing the rivalry between refined investors, allowing the securities market to consistently price securities in line with long-term earnings projections of the underlying firms and assets.

The EMT theory was used to investigate how firm assets are priced in light of current firm corporate governance, idiosyncratic risk, and economic factors impacts (Xu & Malkiel, 2003). The efficient market hypothesis has been criticized for failing to explain risk issues within its scope (Fama & Jensen, 1983). Furthermore, there are countless examples in the securities market that show that market prices are not always determined by rational investors and that psychological factors play a significant influence as well. The one-third collapse in worldwide market values that happened in early October 1987, according to behaviourists, was primarily to psychological impacts because the elementary fundamentals of market valuation did not change rapidly during that year. This meant that the possibility of behavioural or psychological repercussions from the 1987 market meltdown, particularly on securities market pricing, could not be discounted. Despite the fact that EMH has contributed significantly to our understanding of the securities market, there is growing discontent with the theory. While the theory clearly states that the securities market reacts to new information, it is also recognized that psychological factors, whims, and noise trading all influence asset valuation (Summers, 1986).

In this study, the EMH was used to investigate the economic factors that have a moderating effect on the relationship between CG and NFLC value at the Nairobi Securities Exchange. When daily securities trading prices were employed in this analysis, the EMH was implicit in the computation of idiosyncratic risk for each firm. This idea was crucial since the securities prices used to measure idiosyncratic risk were irregular, most likely due to changes in the economic factors over the study period. Furthermore, investors can only invest in securities if they have a precise understanding of predicted returns, beta loadings, and volatilities, starting with a single component structure of returns related to market information (Maiti, 2019). All

important information in the market, as well as changes in the economic factors variables used in this study, was believed to be absorbed by security prices.

2.2.6 Institutional Theory

DiMaggio and Powell (1983) provided a sociological approach to commercial company structures and behaviour in this theory. The theory was founded on the idea that instead of acting logically, firms and their shareholders were driven by their surroundings. According to the theory, institutions were seen as patterns for collective action that offered order, stability, and predictability, and businesses interested in going public were informed about industry expectations. Institutional theory has aided in the understanding of how a variety of firm, societal, and governmental factors influence effective corporate governance. Firms are local entities that influence their behaviour using existing rules and conventions, according to this perspective (Leicht & Jenkins, 2010). Firms acquire legitimacy, reduce uncertainty, and improve the intelligibility of their actions and activities when they follow institutionalized prescriptions. As a result, institutional theory emphasized the significance of legal laws and norms in defining shareholder-board of director agency relationships, as well as their function in protecting investors (La Porta et al., 2000). The notion behind institutional theory is that institutions provide attitudes, norms, roles, and symbolic features like laws or standards that enable businesses to self-regulate resource flows (Scott, 1991; 2013). It also guarantees that company boards adhere to corporate governance rules and avoid any institutional flaws that could harm business operations.

In the process of coordinating and supervising corporate operations as intended, boards ensure that all operational needs are met at all times (Fonseca, 2015;

Chakrabarty & Bass, 2014; Lattemann, 2014). Corporate governance methods such as regulations, conventions, and cognition, as well as forecasts based on self-interests with bounded rationality, are all recognized by institutional theory (Aoki, 2001). The use of culture, socioeconomic, and political challenges in corporate governance to determine cross-national variance of players and situations has shifted institutional theories away from using laws to impact agency conflicts and toward corporate governance (Aguilera & Jackson, 2010). Law has an impact on corporate governance, according to institutional theorists, and is integrated in a country's larger institutional context, notably regulatory frameworks.

Corporate governance concepts are influenced by voluntary codes and other types of law, such as the OECD corporate governance principles. According to Brammer, Jackson, and Matten (2012) and Aguilera and Cuervo-Cazura (2004), different jurisdictions, corporate governance norms, and self-regulatory corporate social responsibility initiatives all contribute to corporate governance disparity. Similarly, Mannarino et al. (2016), Surroca et al. (2013), and Arestis et al. (2004) found that good corporate governance can help managers make better investment decisions that could enhance the value of their companies. To succeed, firms listed on any securities exchange market must have a combination of market strategy, knowledge of economics, and institutional requirements, which determine the legitimacy and constraints that governments place on market operations as they progress and are implemented (Puffer & McCarthy, 2011).

Institutional theory focuses on common interests and reasonable conditions that serve as a framework for market social organization. Markets are hypothesized in investment analysis as grounds where listed corporations study, imitate, and develop

positions to improve their value positions in the market (DiMaggio & Powell, 1983). According to this theory, it is the attention and automatic actions of firms that should manage competition and stabilize market positions (Dorff, 2014). As implied by agency theorists, corporate governance's effectiveness in the face of numerous conflicts of interest has never been universal. These institutions' success is heavily influenced by categorical formal and informal institutions (Aguilera, Desender, Bednar, & Lee, 2015). Battilana et al. (2009), Powell & Colyvas (2008), DiMaggio (1988), and Barley and Tolbert (1997) have criticized the institutional theory for failing to account for the reality of deliberate, interest-driven, and aggressive behavior among businesses' operations. In studies on innovation, corporate and individual-level elements were discovered, with each individual actor capable of influencing institutions (Battilana, 2006; Greenwood & Suddaby, 2006; Greenwood & Hinings, 1996).

The institutional theory considers all firms the same and even ignores the obvious heterogeneities and interests that exist among firms operating in different environments; it should therefore be used in conjunction with other theories (Greenwood et al., 2014; Yazdifar, 2003). The firm board functions as a balancing force in the setting of various players (agents) including principals, managers, and employees, according to the theory evaluation of institutional theory on corporate governance. As a result, independent boards must adhere to regulatory regulations and corporate governance codes in order to minimize losses and increase value for their respective companies (Aoki, 2001). The external factors that affect a company's value are influenced by the country's politics, economy, and social issues, and they have an impact on whether a company's value rises or declines. As a result, external factors have a substantial impact on a company's risk management and governance

requirements (Al Mamun et al., 2013; Roe, 2003). Corporate governance is commonly split between rule-based and principle-based methods to control in different institutional situations. The NSE's regulatory measures are institutionally based and focused on the corporate sector's CG issues. The institutional theory informed the study on how well companies as publicly listed firms followed the NSE's corporate governance norms and regulations.

2.3 Empirical Literature Review

Using empirical data, this study examined the relationships between corporate governance, idiosyncratic risk, economic factors, and firm value. The moderating effects of economic factors and the intervening effects of idiosyncratic risk on the relationship between CG and the value of non-financial listed companies were thoroughly investigated. The impact of CG, idiosyncratic risk, and the economic factors on the value of non-financial listed companies was also examined.

2.3.1 Corporate Governance and Firm Value

Recently, there has been a lot of discussion over whether CG practices boost the market value of publicly traded non-financial companies. The results of numerous studies testing the impact of regulations, accounting, and company income statements on raising the value of listed companies in various economies have been conflicting. When various CG mechanisms, such as independent directors, board composition, shareholding, and board activity, were investigated for their impact on the value of listed firms in both similar and dissimilar contexts, distinct outcomes were observed. According to empirical findings, independent non-executive directors are expected to effectively oversee company operations under the agency theory because they have the motivation to exercise decision-making control and incentives to safeguard their

reputations, both of which ought to increase the value of listed companies (Christensen; Kent & Stewart, 2010; Fama & Jensen, 1983).

Khan and Awan (2012) investigated how corporate governance affected the performance of 100 publicly traded companies following the adoption of a new code of corporate governance (CCG) of Pakistan in 2012. The primary objective was to recommend appropriate corporate governance practices to assist publicly traded companies in improving their performance. Return on equity and return on assets were used to measure company performance in this study, while board size, board meetings, and audit committees of the organization were used to measure corporate governance. In this study, the size and age of the company acted as moderators. The results of an analysis of secondary data from the sample period of 2013 to 2015 revealed that board size had a positive impact on a firm's performance, whereas meeting frequency and the size of audit committee meetings had no relationship.

This study looked at the effect of board size, which was not used in the current study, but it did involve board meetings and audit committees. It also used accounting measures to measure company performance, such as ROE and ROA, whereas the current study used market measures to determine value. Both studies using secondary data, the current study incorporated more corporate governance mechanisms and used economic factors unlike the company characteristics used by Khan and Awan (2012). Despite the fact that both studies used secondary data, such as board meetings and audit committees, and that the current study did not use board size as a CG mechanism, the differences in results can be attributed to the study methodology. This study spanned a shorter time period than the current study, which covered 10 years. The previous study evaluated a company's performance using accounting metrics such as return on equity and return on assets, whereas the current study estimates value

using Tobin's Q, which is a market measurement. The results of the current study may have been inconsistent because it examined more corporate governance practices than the earlier one did and employed economic variables rather than the company characteristics used as moderating variables.

Ibrahim, Raoof, and Rehman (2010) investigated the effects of CG factors such as board size, board independence, and ownership concentration on firm performance using ROA and ROE as company performance indicators. Between 2005 and 2009, information on corporate governance and profitability characteristics was gathered from Pakistan's chemical and pharmaceutical sectors. Findings from multiple regression models demonstrated that CG had a substantial impact on ROE but not ROA. When the study's findings were broken down by industry, it was evident that corporate governance significantly affected ROE but not the chemical and pharmaceutical industries' profitability or return on assets. The current study broadened the scope of CG by incorporating gender and audit committee effects, as well as investigating how idiosyncratic risk-mediated and economic factors moderated the relationships between CG and NFLC value.

Muniandy and Hillier (2015) examined the effect of independent non-executive directors on company performance using a sample of 151 South African companies. This study was inspired by a long-running debate about the impact of corporate governance on firm value, specifically the role of independent directors on the overall value of publicly traded companies worldwide. As evaluated by ROE, this study found a favourable association between business performance and independent directorship. Furthermore, it was demonstrated that independent corporate boards play an important role in overseeing a company's management team, attracting

investors, and increasing the company's value. The current study investigated the NFLCs rather than all firms, and it looked at how idiosyncratic risk-mediated and economic factors moderated the relationships between CG and firm value using market measures rather than accounting metrics. It also included more CG mechanisms that incorporate gender, ownership, independent directors' regularity of attending meetings, and audit committee effects.

Citation and Chatterjee (2011) investigated the relationship between board independence and company value using a sample of private, unaffiliated, and affiliate companies in India. According to the findings of this study, board independence had a minor effect on the value of a number of companies. The same authors looked into the impact of non-executive directors on hotel business performance and found a negative relationship. Surprisingly, the study discovered that internal directors were better positioned to successfully supervise the hotels' operations than foreign directors. In contrast to the previous study, which utilized accounting-based metrics to measure performance, the present study included additional CG mechanisms and examined how they related to the market value of listed non-financial companies.

Using a sample of Hong Kong firms, Leung, Richardson, and Jaggi (2014) investigated the relationship between the concentration of family ownership, corporate board and board committee independence, and firm performance. A significant correlation between family business performance and board committees or corporate board independence was not established in this study. In contrast, it was revealed that in non-family companies, board independence and firm performance were positively related to firm performance. These findings suggest that family companies used the "one size fits all" approach required by regulatory bodies in the

appointment of independent members to corporate boards and that this approach did not necessarily improve firm performance. The case for changing the requirement that family firms appoint independent directors to their corporate boards was to be reconsidered in this report. Unlike this study, which focused on family businesses, the current study focused on similar CG components of ownership and board committee independence and how they related to NFLC value. The current study used more CG mechanisms and mediated and moderated the effects of the factors to seek the relationship of the independent variable with the value of NFLCs.

Johl, Kaur, and Cooper (2015) investigated the effect of board meetings, independent director management practices, board composition, and audit department accounting competency on the performance of Malaysian listed companies. According to their findings, independent directors' managerial activities on the board had no effect on firm performance, but board size and audit committees did. This study examined all publicly traded companies for one year, using accounting based estimates whereas the present method examined a selection of non-financial publicly traded companies for ten years, using market-based of estimates of Tobin's Q, still yielded similar results regarding independent directors but provided different results with audit committees.

Arora (2012) investigated the relationship between CG and the profitability of publicly traded companies in India, employing both market and accounting measures as indicators of firm performance. The relationship between internal directors' board dominance vs. outside directors' board dominance as a proxy for company governance and financial success was one of the important concerns to study. According to the findings of this study, internal directors had a positive relationship, while outside directors had a negative relationship with financial performance. This study also

found that the unfavorable relationship was caused by a misinterpretation of the roles of independent non-executive directors. Even though techniques were the same, the results were expected to differ because the current study looked at nine sectors versus one in the previous study.

Fuzi, Rahim, and Tan (2016) studied the relationship between independent directors and the value of Malaysian publicly traded companies. This study's purpose was to evaluate how independent directors' performance was influenced by the nomination procedure, competency, information accessibility, and incentives. This study found that the competency and access to information of independent directors had a significant impact on their performance. Further, according to this study, adhering to the standards was insufficient if the board's independence did not function as planned. Directors either make judgments based on what had worked in the past or employed a strategic planning process to determine the greatest future course for the organization. This is where independent board members contributed significantly to the strategic planning processes of companies. Fuzi et al. (2016) conducted a second study in which they investigated the relationship between board independence and firm profitability in a few countries and discovered that independent director ratios had a disproportionate relationship with firm profitability. They came to the conclusion that independent director participation on boards needed to be monitored on a frequent basis if companies were to maximize shareholder value. The present analysis took into account more CG factors than the one utilized in this study, and Malaysia's economic environment is considered to be more developed than Kenya's Nairobi Stock Exchange.

The impact of board meetings on business profitability was investigated in a study that included 169 South African listed companies over a period of corporate governance improvements. Regular board meetings allowed for greater monitoring of company activities, guidance, and managerial discipline, which resulted in a positive board-management relationship, according to the findings (Ntim & Osei, 2011). Johl, Kaur, and Cooper (2015) investigated how a few corporate governance parameters affected the relationship between CG and company profitability, using board meetings, board independence, board size, and the accounting proficiency of directors as CG mechanisms. This was a one-year study that examined the annual reports of Malaysia's 700 publicly listed firms during 2009. According to the study's findings, board independence had no effect on firm performance, but board size and accounting and financial understanding did. The investigation also revealed that board diligence in terms of board meetings had a negative impact on the profitability of publicly traded companies. Finally, the findings of the previous empirical literature review provided useful information for the current study on the relationship between board director performance and non-financial listed firm value. Despite that, this study was deemed ineffectual for performing a comparative analysis of how CG has behaved over time because the time period was so short (just one year).

According to Kenya's code of corporate governance standards, listed firms must take gender into account when appointing board members, and board nominees should not be viewed as representing a single or narrow constituency interest (CMA, 2015). Academic degrees, technical skills, relevant industrial knowledge, experience, country, age, race, and gender are all defined as diversity under Kenya’s 2015 corporate governance code. Listed firms in Kenya are required to adopt a diversity policy and must take the procedures necessary to implement the policy. Efforts are

being made locally and internationally to have more women on corporate boards so as to improve the CG performance of publicly traded companies. There are compelling theoretical reasons in favor of women on corporate boards, but actual evidence is needed to back up this assertion and the policies that follow. There are still practices of some objections, prejudice, and chauvinism about women's ability to perform executive responsibilities (Mateos del Cabo, Gimeno, & Nieto, 2012). Finance researchers are still looking for empirical evidence that a balanced board of directors improves performance and enhances corporate value. The idea that men and women contribute significantly and differently to board functions, which have a considerable impact on corporate performance, is still less compelling. There is little evidence that a diverse board of directors will improve a company's success. Increased board diversity should be framed solely in terms of moral value, rather than the prospect of increased firm performance (O'Reilly & Main, 2014).

In response to South African corporate growth decisions, Muniandy and Hillier (2015) investigated the relationship between firm performance and board independence. As a result of their research, the authors came to the conclusion that board independence was important and pertinent to corporate regulators' attempts to promote foreign investment in emerging countries on the African continent as well as investor awareness of growth companies. Numerous previous studies, on the other hand, had discovered a variety of relationships between the number of independent boards of directors and the financial performance of publicly traded companies.

Báez Garca, Flores-Munoz, and Gutiérrez-Barroso (2018) investigated the relationship between gender diversity, CG, and firm behavior in 118 STOXX Global 3000 Travel & Leisure index companies. This study purposely sought more

information about how female and independent directors affected the value of publicly traded non-financial companies. Gender discrimination, including the exclusion of women, had been identified as a potential problem in modern firms at this time. The study's findings revealed that there was still a gender disparity in the three investigated gender gap characteristics of managerial presence, compensation, and seniority. Although the current study's emphasis on female board presence is similar, it was conducted in a more developed environment, the STOXX Global 3000 Travel & Leisure index, than the NSE. As a result, economic conditions may account for variations in variations in research outcomes.

Lakhal, Aguir, Lakhal, and Malek (2015) investigated the effects of gender diversity on corporate boards and top management positions in publicly traded French companies. The study found that the proportion of women who chair or serve as directors on the board had a negative impact on managing earnings over a four-year period, based on a sample of 170 companies. This research indicates that women are efficient in their monitoring positions and are crucial tools for corporate governance. These findings suggest that political bodies can influence profitability management strategies and benefit French-listed firms by promoting gender equality on boards. It was noted that rules or quotas mandating women to participate on some committees could lead to a temporary shortage of qualified women.

A relationship between CG and Canadian listed companies' performance with three or more female directors was investigated by Zaichkowsky in 2014. According to the findings of the study, having three or more women on a board had a significant positive impact on profitability in Canadian publicly traded companies. A similar study on publicly traded Canadian companies found that companies with more female board members consistently outperformed their peers in terms of performance and

CG. Finally, this study revealed that companies with just one woman on their board of directors outscored those with none. MSCI World Index (2015) conducted another study that examined 1,643 firms from 2010 to September 2015 to see if strong female leadership had any effect on performance as defined by three or more female directors on the board. Companies with a high female director ratio outperformed those with no women on their boards of directors, according to this study. Firms with women in top management had a 10.1 percent average return on equity, compared to 7.4 percent for companies without women in senior management. This study also revealed that firms with more female leadership outperformed and were less likely to be involved in corporate scandals. The same study revealed that firms with the lowest quarter of female board members had 24 percent more governance problems than the average. Other research has found that companies with a lower female-to-male board ratio than the national average have more governance issues, such as bribery, corruption, fraud, and shareholder disputes (MSCI World Index, 2015).

In a study conducted in the United States, researchers looked at how risk-averse women and risk-taking men differed when it came to taking risks in the context of financial performance and gender diversity in firms from 1992 to 2012. The study in a developed economy environment was guided by selected female traits in the United Kingdom, and it revealed that firms with more gender diversity in management had lower risks and higher profitability, as evaluated by Tobin's Q (Perryman, Fernando, & Tripathy, 2016).

On the contrary, a study based on data from the United Kingdom on the influence of gender diversity and women on corporate boards found little evidence that gender diversity on boards improved firm performance. This study considered samples even

for companies that had dropped out of the index. This study indicated that having more female board members was only significant for moral grounds, not for greater financial performance (O'Reilly, Gregory-Smith, &Main, 2014). The aforementioned studies on female representation on boards were conducted in more developed countries than NSE, the location of the current study. As a result, differences in research findings may be explained by differences in economic conditions as well as the high level of development in legal and governance requirements. Further, these previous studies, unlike the current one, did not investigate the impact of intervening or moderating effects on gender.

Post and Byron (2015) investigated the finance literature's contradictory findings regarding the relationship between female board directors and corporate performance among listed firms. To examine conflicting findings, the results of a hundred and forty articles on board diversity were statistically combined with a sample of over ninety thousand corporations from over thirty countries. The investigation looked into whether the outcomes differed based on the legal, regulatory, or socio-cultural framework. According to this study, having a female on the management board was only linked to improved accounting performance in nations with higher securities holder safety. According to the same study, while the relationship between female representation and market performance was small, it was positive in countries with higher gender uniformity and negative in countries with lower gender similarity. According to the same study, firms with more female directors had higher accounting returns, as measured by ROA and ROE, than firms with fewer female directors. The relationship was statistically significant despite its small magnitude, implying that it was not a chance effect but rather a result of the large sample size. Previous research

into the relationship between corporate governance and listed company value had been similarly unaffected.

To investigate the relationships between female directors and profitability, a contextual approach was used on a smaller sample of 20 publications. When ROA, ROE, and Tobin's Q were used to analyze firm performance, female directors were found to have a weak relationship with firm performance. However, increasing the number of female directors on corporate boards had a statistically insignificant effect on firm profitability as per this study (Pletzer, Nikolowa, Kedzior, & Voepel, 2015). Based on the findings of a rigorous, original, peer-reviewed investigation, the relationship between female directors and firm performance was either quasi-negative or very marginally favourable, according to the contextual analysis. There was little indication that adding women to boards of directors increased corporate performance, according to this study. According to their findings, there was no practical argument either for or opposing the women being elected to executive boards, and instead suggested that women should be nominated to boards for gender parity rather than diversity. Since this study gave a statistical overview based on a sophisticated average of the results of previous investigations, meta-analysis was seen as more reliable and weighted more heavily than single earlier studies.

Despite disparities in sample size (140 versus 20 studies) and scope, the meta-analyses came to the same findings. A contextual study was considered as more reliable and weighted more highly than single prior studies since it provided a statistical picture based on a sophisticated average of the outcomes of previous investigations. The contextual studies arrived at the same conclusions despite differences in sample size (140 versus 20 trials) and scope. Despite the fact that the

contextual study discovered a stronger relationship between company governance, specifically board gender diversity, and financial performance, there are still conclusions that differ. This required conducting a randomized control experiment to uncover causal effects, which was impossible to perform due to the inability to randomly assign board members.

The following empirical studies find negative relationships between board gender diversity and corporate governance, while others find a stronger relationship. In a sample of 87 outcomes, Byron and Post (2015) reported that board gender diversity is moderately related to CG but strongly related to corporate social responsibility. They contended that, while a significant correlational relationship does not always imply causation, having more women on corporate boards of directors increased corporate social responsibility, which other findings did not support in listed companies. Other empirical researches show that organizations with lower board diversity than the national average had more governance-related difficulties, such as bribery, corruption, fraud, and shareholder disputes (MSCI World Index, 2015). According to an IMF study on women in management, adding one female to senior management raised ROA by 3% to 8% while keeping board size, a proxy for corporate governance, at the same level (Lone, C., Lin, H., Joana, P. & Rima, T. 2016). In another finding, female CEOs were more conservative and always took a cautious approach when faced with risky decisions including indebtedness, acquisitions, and shareholder value development (Perryman et al., 2016; Levi, Maurice, Kai Li, & Feng Zhang., 2014; Huang & Kisgen, 2013). Despite this, peer-reviewed academic research on gender diversity discovered that having female board members had no effect on the company's performance. Depending on context analysis employed, board gender

diversity had either a very weak or no relationship with governance practices, suggesting a problem of inconsistent findings (Govotsos, 2017).

The previous empirical findings were relevant to this study because they provided input on whether having women on the boards of publicly traded companies affected the value of companies. This is related to the twenty-first-century affirmative action gestures as well as the impact of board gender diversity on a public company's financial performance, which has sparked a lot of studies, particularly in Kenya. Data on board gender composition obtained in publicly available financial records, as well as various corporate performance studies, backed up this conclusion. Diversity was thought to lead to bad corporate performance because of time-consuming decision-making procedures, the pursuit of multiple goals, and greater conflicts that diminish board efficiency. These effects, it is claimed, reduced the effectiveness of decision-making, decreasing the value of publicly listed firms (Demir, 2016). Positive results for female board representation were favourable in countries with stronger shareholder protections and higher gender parity, but unfavourable in countries with low gender parity. This could be because investors' assessments of companies with more female directors' future financial potential were influenced by societal gender differences in human capital, which may not be applicable in a developing economy.

From 2007 to 2012, Hykaj (2016) investigated institutional ownership, corporate governance, and financial performance of investment trusts in the United States. This study targeted 105 investment trusts in the United States. The research found that institutional investors would participate in monitoring actions that helped the firms achieve financial growth. The study found that greater returns were associated with firms where institutional ownership levels ranged from 30% to 50%. This study found

a relationship between institutional ownership and fund performance. The current study focused on non-financial listed companies in Kenya across six sectors over a 10-year period, whereas the previous study was more narrowly focused on investment trusts in the United States. As a result, the two studies were conducted in two distinct contexts with potentially divergent results.

Abubakar, Umaru, and Daikwo (2019) investigated the relationship between institutional ownership and the financial performance of four of the six building materials firms listed on the Nigerian Securities Exchange. Secondary data for the four companies was obtained from annual reports published over the previous 13 years. The study discovered a relationship between institutional ownership and the financial performance of listed Nigerian building materials companies using multiple regression analysis. This study was solely focused on the building materials industry in Nigeria, whereas the current study was primarily focused on the value of non-financial listed companies in Kenya. As a result, the current study can only benefit from the study's findings if institutional ownership is taken into account.

Nazari, Basati, and Jamshidinavi (2017) investigated the relationship between institutional ownership, risk appetite, and financial performance of Tehran Stock Exchange-listed companies. Data for the years 2012 to 2016 was provided by 165 publicly traded companies and analyzed using regression analysis using a fixed effect model. The findings of the study revealed that institutional ownership had a significant impact on the relationship between financial performance and risk-taking. This study suggests that in order to make the best possible investment decisions when risk is taken into consideration, companies should carefully analyze the ownership structure when purchasing shares. However, this study covered firms listed in Turkey, which is a relatively developed country compared to Kenya, and therefore the

Tehran Stock Exchange is not the same as the NSE in terms of levels of economic development. The current study had more CG aspects considered to one used in this study, covered only non-financial listed firms for ten year period compared to five in the previous study. Likewise the economic environment of Turkey is considered slightly more developed than Kenya where the listed companies at the NSE.

The Tehran Stock Exchange in Turkey, which is a little more advanced than the NSE, is where this study was undertaken. The previous study investigated all of the companies listed on the Turkish stock exchange using one CG component over a five-year period in order to identify the relationships between CG and the performance of listed firms. Compared to the previous study, the present study examined more CG components for publicly traded non-financial enterprises across a ten-year timeframe.

From 2008 to 2016, Khan, Khidmat, Al Hares, Muhammad, and Saleem (2020) investigated how ownership structure and corporate governance influenced the relationship between agency costs and firm performance in Chinese listed companies. The study used both the fixed-effects model and a more reliable dynamic panel generalized technique of moment estimation to analyze the data. The findings showed a positive relationship between agency performance and corporate governance quality, as well as ownership concentration, and non-state ownership. The relationship between agency performance and state ownership, however, was negatively impacted. Numerous thorough assessments of an alternative measure of agency cost supported these findings. These findings made a significant contribution to the empirical literature on agency theory by providing insightful information on how CG and ownership concentration can serve to reduce the agency-performance relationship. This study also discovered that state-owned businesses had a higher rate of managerial appropriation misuse than non-state businesses. Policymakers were

recommended to use these findings to develop investor protection regulations in order to reduce managerial appropriation. This study was conducted in China, which has a more advanced economy than Kenya and a stock market that was established in the early 1990s with a distinctive securities trading structure. As opposed to external funding, Chinese listed companies place a lot of emphasis on internal finance, such as retained earnings, giving management the opportunity to manipulate cash for their own empire-building or wasteful investing. Due to its complete reliance on foreign funding, it is thought that the Chinese stock exchange is more sophisticated than Kenya's NSE.

Karaca and Ekşi (2012) investigated the relationships between ownership structure and company performance of 50 listed industrial companies on the Istanbul stock exchange between 2005 and 2008. In this study, the greatest shareholder in the corporate ownership structure was considered an owner, and a positive causal relationship between ownership structure and profit before taxes was established using Tobin's q as a performance indicator. However, no relationship was found between ownership structure and Tobin's Q, revealing how accounting and market-based performance assessments can provide varying relationships between ownership structure and financial performance. The complete reverse was reported in an ISE 100 study of Turkish publicly traded firms conducted from 2002 to 2007 where there was no statistically significant relationship between ownership structure and market or accounting-based metrics in this analysis.

It is worth noting that the current study took into account more CG aspects than the one used in this study, as well as the economic environment. In this case, Turkey is considered more developed than Kenya, where listed companies on the two exchanges

can explain the effect of contextual differences. A short time period was applied in this study, five years, which made it less beneficial for comparing the effectiveness of ownership structure with financial performance over time. The current study used a ten-year period found suitable due to trends or changes in the study's main variables that move very slowly and take at least more time to change. the period applied in this study was five years, which made it less beneficial for comparing the effectiveness of ownership structure with financial performance over time. The current study used a ten-year period found suitable due to trends or changes in the study's main variables that move very slowly and take at least more time to change.

The relationships between institutional, concentrated, foreign, and managerial share ownership and firm performance were examined by Bayrakdaroglu (2010). Using panel regression analysis and various share ownership models, accounting and market-based criteria were utilized to analyze this relationship. The primary objective was to look into the relationships between various ownership structures and accounting and market measurement measures in the securities market. The findings demonstrated that, as determined by a variety of ownership structure models, the ownership structure of investigated organizations had a positive effect on their financial performance as measured by both accounting and market-based indicators.

This study found that institutional ownership concentration and foreign or managerial share ownership had no significant impact on financial performance. The previous study concentrated on a single component of institutional ownership as a CG mechanism, whereas the current study looked at five CG mechanisms for a direct relationship, as well as the moderated and intervened effects in such relationships.

El-Habashy (2019) investigated the relationship between the financial performance of publicly traded Egyptian companies, the ownership structure, and the effectiveness of the board of directors. To assess the relationship between corporate management skills and firm performance, 240 observations from a balanced panel data set of the 40 most active non-financial companies were used. The study examined data from cross-sectional non-financial companies from 2009 to 2014 and revealed that managerial ownership and ownership concentration had an insignificant impact on market or accounting performance standards. In contrast to a previous study that examined the direct relationship between CG and business performance for five years, the current study examines the relationship between CG and firm value for ten years. It also took into account the relationship's moderating effects of economic factors as well as the intervening effects of idiosyncratic risk.

Shrivastav and Kalsie (2016) conducted a thorough examination of the theoretical foundations and empirical evidence supporting the effect of ownership structure on firm performance. It investigated the relationships between various elements of ownership structures, including management, directors, institutional, promoter, and foreign ownerships, and company performance. The ownership structure was thought to be a key CG instrument for resolving disputes between shareholders and managers, but there were discrepancies in the findings. Despite the fact that this topic has been the subject of extensive theoretical and empirical research over the last 20 years, the effect of ownership structure on firm performance was found to be positive, negative, or insignificant. The inconsistencies were most likely caused by the endogeneity of the ownership structure, the corporate governance environment, and the metrics used to evaluate firm performance. In contrast to the current study, which explored relationships, this study had the same focus but only reviewed empirical research.

Ali and Isa (2018) investigated the effect of board qualities on the corporate social responsibility performance of listed cement companies in Nigeria using secondary data from 2004 to 2014.

A panel data regression approach was used to analyze the data. The study discovered that board size, managerial ownership, and board composition all had a significant impact on corporate social responsibility performance, though the latter two had only marginally beneficial effects. According to the study's findings, board characteristics had a very strong capacity to explain variations in corporate social responsibility performance in Nigerian listed cement companies, and any increase in board size corresponded to an increase in the number of non-executive directors. This study focused on the market value performance of listed companies and only one industry, one board detail, and the performance of corporate social responsibility. This study examined a direct relationship between ownership concentration and CSR, whereas the current study looked at a mediated relationship between idiosyncratic risk and a moderated effect of economic factors on the relationship between corporate governance and the value of NFLCs, explaining differences in results.

Ongore and K'Obonyo (2011) investigated the relationship between corporate governance and NSE-listed company performance. This study used ROE, ROA, and dividend yield as firm performance metrics and was moderated by economic factors, which included market variables for managerial labor, products, finance, and industry structure. According to this study, corporate governance characteristics such as ownership concentration, government ownership, and managerial discretion all had a significant negative relationship with firm value. The effects of government and foreign ownerships on business performance, as well as insider management and

institutional ownership, were found to be consistent with relevant literature. Since ownership structure was an independent variable in the current study, which was done using a market-based measure and linear regressions, the results were projected to be different from those of the previous one.

Salem, Metawe, Youssef, and Mohamed (2019) used empirical studies to examine how corporate governance characteristics affected firm value in Egypt, an emerging economy, and the United States, a developed economy, over a six-year period (2012 to 2017). The empirical investigation identified five corporate governance mechanisms, such as CEO duality, board independence, the board size, board meetings, and gender diversity, as having the potential to increase a company's value. The model was evaluated in this study using data from 84 Egyptian companies listed on the Egyptian stock exchange and 27 American companies included in the Dow Jones Industrial Average (DJIA). The model led to the development of five primary hypotheses and 10 supporting hypotheses. These theories were evaluated using GLS regression, and the results showed that in both Egypt and the United States, the board of directors' qualities had a nearly equal impact on firm value. Gender diversity, board meetings, and board independence all had a positive and significant relationship in the two countries, whereas board size had a significant negative impact on firm value in both the Egyptian and American contexts. Although previous research focused on various aspects of corporate governance, the current study goes even further by incorporating intervening and moderating factors.

2.3.2 Corporate Governance, Idiosyncratic Risk and Firm Value

To build a solid asset-pricing model, researchers undertook asset-pricing research. Asset-pricing research and results have attempted to develop a realistic asset-pricing

model that entirely reflects security price behaviour since Sharpe's presentation of capital asset pricing in 1964, but there has not been one. According to asset pricing studies, unknown firm risk variables account for at least 60% of monthly price volatility in firms' securities (Roll, 1988). According to Bali, Cakici, and Levy (2008), idiosyncratic risk arises from the implications of investment firms' decision-making processes and impacts firm value. The focus on idiosyncratic risk has developed significantly in developing markets, where substantial volatility has defined securities returns over the years and capital budgeting decisions (D´ecaire, 2020; Abou-Zaid, 2011; Li, Morck, Yang, & Yeung, 2003).

Taslim (2017) looked at how certain corporate attributes affected Oriental Food Industry Holding Berhad's profitability in the food and beverage sector during a five-year period (2011 to 2015). The compensation of the board of directors, firm size, leverage, average collection period, liquidity risk, and operational risk were firm-specific variables, while GDP and inflation rates were economic factors that influenced the study. The study's analysis of correlations revealed that profitability was positively correlated with firm size, board compensation, liquidity risk, and credit/counterparty risk. Furthermore, a negative correlation was established between a company's profitability and leverage, operating risk, GDP, and inflation. A comparative analysis of how CG has changed through time in the context of economic issues, which requires a sufficient lag time to analyze the implications, may not have been possible within the five-year time frame. This study only examined one sector. Six non-finance sector categories were included in the current study's expanded scope.

Zhou (2019) examined how ownership structures affected Chinese publicly traded manufacturing MNCs from 2010 to 2016 in order to lower downside risk. Organizational slack, debt level, Tobin's q, liquidity, age, and company size were the main determining factors. To determine organizational slack for the study, the ratios of accounts receivable, inventory, and selling, general, and administrative expenses over total sales were totaled up. According to the regression analysis, multi-nationality was substantially related with low risk for businesses in emerging markets, and ownership structure had an impact on this relationship. Managerial ownership, institutional ownership, and multinationals were more likely to mitigate negative risk, particularly in MNCs with high degrees of ownership concentration. To fully profit from worldwide operations, MNCs with ownership structures in China and other developing countries would need to tighten corporate governance. While the prior study used risk as a dependent variable and, as a result, had a different focus, the current study analyzed risk as an intervening factor with the value of non-financial listed firms as a dependent variable. In addition, the study was conducted in a nation with a more advanced economy than Kenya, the location of the current study.

Dewanta and Arifin (2020) investigated whether managerial pay and ownership concentration influenced corporate risk-taking behavior in Indonesian manufacturing firms between 2013 and 2017. In this study, CG mechanisms included the board of directors, the audit committee, and managerial compensation. A total of 345 observations from 69 companies were examined during a five-year period using a purposive sampling technique. The regression analysis's findings indicated that managerial compensation and ownership concentration had a favorable impact on company risk. The size of the audit committee had no effect on the risk-taking behavior of industrial companies listed on the Indonesia Stock Exchange, whereas the

members of the board of directors had a negative impact on the company's willingness to take risks. The current study looked at the relationship between corporate governance and the value of publicly traded non-financial corporations, as opposed to the previous study, which focused on the direct relationship between corporate governance and risk.

Between 1999 and 2008, Zhao and Xiao (2016) investigated the relationship between Chinese company ownership structure and company risk-taking. The findings revealed a U-shaped relationship between the largest shareholder's ownership and the firm's risk tolerance. According to the study, the environment in which this research was conducted was one in which the highest business risk was discouraged due to the dominance of the management impact and the small stake that the largest shareholder held. Furthermore, the incentive positioning effect's dominance in Chinese firms led to an increase in corporate risk-taking when the greatest shareholding was above a certain level. According to this research, government-owned businesses hindered corporate risk-taking, whereas foreign-owned companies supported it. A firm had to be willing to take on risk in order to increase asset utilization efficiency and produce appealing prospects, returns, and corporate growth. The significance of ownership structure in corporate risk-taking was emphasized in this study. The prior study used corporate risk-taking as a dependent variable, whereas the current study broadened its focus to analyze listed non-financial companies as a significant problem, with more corporate governance mechanisms, risk as an intervening element, and economic considerations included as moderating factors.

Knyazeva, Knyazeva, and Masulis (2013) examined the relationship between CG and company financial performance following new admissions of foreign and domestic

independent director talent in the United States listed firms from 1996 to 2006 and found a positive correlation between CG and financial performance. This finding was constrained and could only be generalized broadly to other high-tech industries that faced comparable serious challenges from new firm entry as a result of conditions driving rapid industry expansion. However, their findings did not hold true for sluggish companies with a predictable market structure and low to moderate levels of new entry threats. Despite the fact that the study also incorporated the corporate governance component, this study's focus was different because it only examined a single sector (high-tech companies), whereas the current study examined a variety of sectors that make up non-financial listed companies. The study's scope was also different because the study's environment had a more highly developed economy than Kenya's.

A study was conducted from 2003 to 2010 using a sample of 50 well-capitalized Chinese finance companies to determine if the independence of the board of directors affected bank value and asset quality. In this study, it was found that independent directors and asset quality significantly improved banks' performance (Liang., Xu., & Jiraporn., 2013). The previous study only examined financial companies with a single corporate governance mechanism, whereas the current study only examined listed non-financial companies with firm capitalization not being a criterion for sample selection.

Between 2003 and 2010, Liang et al. (2013) examined the literature on all banks listed on the Shanghai and Shenzhen stock exchanges and found an unfavorable correlation between corporate governance and bank performance These findings demonstrated that inside directors had a thorough understanding of the company's operations and

could provide useful information for developing corporate strategy because they were an important part of the company's structure. This study also found that corporate board member partisanship, particularly in democracies around the world, had a negative impact on financial company performance and asset quality. Likewise, a significant relationship between board membership and firm value was found in government-controlled companies. This constructive connection, however, was best characterized by China's control-based corporate governance system for publicly traded companies. The state had a strong impact on the listed corporations in this system through concentrated ownership. A healthy balance in board management was important in determining firm value, according to the empirical evidence, despite frequent communication and carrying out a variety of duties. Although the focus was different, particularly when it comes to addressing financial institutions, the literature in this study supports the current study on corporate governance mechanisms. The present study's scope was wider and included a larger number of CG mechanisms in non-financial firms as well as a longer time frame for the investigation.

Báez, Báez-Garca, Flores-Munoz, and Gutiérrez-Barroso (2018) investigated the state of gender diversity in corporate governance, its effects on operational effectiveness, and emotional intelligence in the travel and tourism industry. This study examined any remaining equality gaps as well as the existing leadership positions held by women in corporations. Travel agencies accounted for the majority of the sample of firms due to the general increase in the economic impact of tourism in the aftermath of the global financial crisis. This was a one-year study that included 118 companies from the STOXX® Global 3000 Travel & Leisure index. In addition to ad hoc gender diversity standards, salary and seniority variations were established. As a first step toward a comprehensive study plan, special attention was paid to the distinctive

position held by women on each board and its relationship to emotional intelligence. According to the findings, women were always primarily focused on a small number of corporate responsibilities, such as marketing and human resource management. This subjectivity, which at first glance appears to be another example of the gender wage gap, provides an opportunity to link organizations with a new management strategy in which tools like emotional intelligence may play a critical role. This study made two contributions to the corporate governance literature. First and foremost, it revealed the intense gender inequality that still exists at the top of travel agencies around the world Second, the gender discrepancy that was found raises a wide range of potential research issues. The new study employed a specific measure of the value of listed non-financial companies, covering more sectors over a longer time period than the preceding study, and had a broader scope than the previous study. However, the current study took into account the gender characteristics of corporate management that were used in the prior study.

Ang. et al. (2006) investigated the relationship between cross-sectional correlations and firm-customized risk in the US equity market in an attempt to establish whether collective market volatility was the desired risk feature. This cross-sectional analysis demonstrated that idiosyncratic volatility and projected returns had negative correlations in portfolios with strong idiosyncratic volatility. After taking into consideration size and other criteria, this study provided more evidence in favor of their conclusion that it held true in bear market situations. In a separate investigation, Ang et al. (2009) put their conclusions to the test in the context of the US utilizing data from all over the world. Both groups concluded that idiosyncratic volatility was adversely correlated with expected returns. Additionally, they demonstrated that excessive idiosyncratic variation in equity low returns arose concurrently in different

locations worldwide, demonstrating that this was a global phenomenon. Information distribution and higher latencies were ruled out in the United States as key reasons. This analysis concluded that there was significant non-diversifiable covariation in the low returns to high idiosyncratic volatility stocks across countries. The main objective of this study was to determine the relationship between idiosyncratic volatility and expected returns in a developed economy. The current study's scope has been expanded to include the effect of idiosyncratic risk on the relationship between corporate governance and the value of non-financial listed companies in Kenya, an emerging market.

When he established that idiosyncratic volatility and required return had a real relationship, Fu (2009) found Ang et al.'s (2006) findings fascinating and corroborated them. Ang et al. (2006)'s findings were to be confirmed first before investigating and assessing the relationship between idiosyncratic volatility and required return. Fu (2009) found a significant time-series relationship between expected abnormal returns and market returns, as well as a significant cross-sectional relationship between conditional idiosyncratic volatility and average security returns as a result of this replication. The monthly return reversals with strong idiosyncratic volatilities were mostly responsible for this finding. The current study applied the same technique as the previous one to assess security monthly returns in order to determine firms' idiosyncratic risk levels, which were then used in a broader context to mediate the relationship between CG and NFLC value.

Abu-Ghunmi, Bino, and Tayeh (2015) investigated the relationship between idiosyncratic risk and corporate governance among Jordanian-listed companies. According to the findings, ownership concentration was inversely correlated with the

idiosyncratic risk of a stock. This implies that controlling ownership can be more expensive than advantageous. This was in line with the idea that minority investors had less motivation to engage in businesses that offered inadequate investor protection. When combined with low-quality information disclosure to the public, private knowledge was unlikely to be reflected in stock prices, resulting in less idiosyncratic risk. This outcome supports the hypothesis that small investors may be the target of expropriation by powerful owners if their interests are not sufficiently safeguarded. This study used a market index and average monthly returns from the stock market, just like the current study did. While Brandt et al.'s (2010) methodology was used in the earlier study, the current study made use of Ang et al.'s (2006) strategy.

Srindhi, Gul, and Tsui (2011) conducted research on the relationship between profits and the representation of women on corporate boards between 2007 and 2011. This study found that when it comes to managing business operations, particularly in audit and corporate governance, female boards of directors were more effective and transparent than their male counterparts. Exceptional profit quality, idiosyncrasies, and company value all improved when there were more women on the board, even after accounting for endogeneity and other company characteristics. Although this study focused on profit quality, it differed from the current study's investigation of the value of listed non-financial companies, but it shared a component of corporate governance in a relationship with performance. In contrast, the current study broadened the scope and investigated more corporate governance mechanisms with moderating and intervening effects.

Oradi and Izadi (2019) investigated the relationship between gender diversity on audit committees and the frequency of financial restatements in publicly traded Iranian companies. This study used a sample of 683 full-year observations from 2013 to 2017. The hypothesis was tested using a logistic regression model, and the study found that audit committees with at least one female director had a lower risk of financial restatement. Further investigation found that a decrease in financial restatements was more strongly associated with female audit committee directors who are independent and financial experts. Finally, additional research found that companies with gender diversity on audit committees and independent female directors with financial expertise had better auditors. This result was consistent with the gender diversity literature, which claimed that women were more ethical, conservative, and performed better in monitoring roles than men, Although it focused on financial restatements rather than the value of listed companies, as the current study did, the component was utilized in corporate governance to quantify successful monitoring and served the same function.

Li and Liy (2016) investigated how corporate governance impacted the price of debt financing for listed firms in China during a time when bank credit was in high demand. For listed companies in China at the time, debt financing was the main source of funding, and more listed companies in China had increased borrowing plans. The study correlation and a panel data model with reference to time series features and structural characteristics were employed to analyze the relationship.

The CG structure had a significant influence on the cost of debt financing, according to the findings of this study, and a variety of institutional agreements controlled how various shareholders granted rights, obligations, and rewards. Firms' ability to lower debt financing costs was made possible through the implementation of a fair incentive

management system, the improvement of the composition of the board of directors and the board of supervisors, and the appropriate reduction of ownership concentration. This study only examined the cost of debt financing; it didn't investigate how the economy, which has a significant impact on borrowing, costs and financing strategies, might affect these costs.

Wei, Chen, Lin, and Kang (2015) examined how CG frameworks affected idiosyncratic risk using information from Taiwanese financial institutions going back to 2006. Idiosyncratic risk in financial institutions was examined in this study in light of corporate governance practices. They looked at how ownership structure, board composition, organizational incentive structures, information availability, and idiosyncratic risk interacted. In this research, a sample of listed and over-the-counter companies from 2006 to 2012 was used. Dynamic panel data modeling was used. The study's findings revealed that institutional ownership was related to firm idiosyncratic risk, while the idiosyncratic risk was related to corporate value when the foreign investor shareholding ratio was considered. The presence of multiple independent directors and supervisors on the management board had a short-term impact on foreign investors and reduced idiosyncratic risk in Taiwanese financial institutions, according to this study's findings. The study's findings also revealed that boards of directors in Taiwanese financial institutions could only manage idiosyncratic risk if they maintained a high level of independence and communication. According to the findings of this study, financial institutions should always strengthen the independence and information transparency of their boards of directors in order to reduce idiosyncratic risk. This study was pertinent to the current study because, despite focusing on financial institutions, which the current study disregarded, it

evaluated essentially identical corporate governance procedures. The moderating and influencing of the relationships in the current study broadened its scope.

Using a panel regression study spanning the years 1963–2015, Bartram, Brown, and Stulz (2016) investigated the relationship between idiosyncratic volatility and market risk. According to the study's findings, idiosyncratic risk and market risk had a significant relationship that became less significant as organizations got bigger. The findings supported the authors' theory that firms' value was less sensitive to fluctuations in risk since it was generated from long-term idiosyncratic growth potential. Considering the same analysis, market size and book-to-market were insufficient to account for the relationship between idiosyncratic risk and market volatility, and illiquidity trailed idiosyncratic risk. Looking at the study's macroeconomic perspective, higher firm-specific uncertainty was associated with higher aggregate uncertainty. This meant that firms whose value had been negatively impacted by uncertainty would be more vulnerable to combined uncertainty shocks, potentially making it impossible for affected firms to raise financial resources in the securities market. This study looked at the relationship between company value, market risk, and idiosyncratic risk, whereas the current study incorporates CG and economic factors.

Bennet, Sias, Stark, Xu, and Malkiel (2003) investigated the relationship between governance mechanisms and idiosyncratic risk in their study and found that an increase in idiosyncratic risk was associated with an increase in institutional ownership. The findings also revealed a relationship between institutional ownership and changing security prices. Additionally, this study indicated that institutions were now more inclined to finance start-ups and riskier businesses. This study shows that

institutional investors changed their investment strategy to include smaller, riskier stocks as well, as they pay out better dividends. This study was pertinent to the current one because it shows how investor preferences are changing, with a focus on firm-specific risks. The present study, however, broadens the study's focus to explain corporate governance processes that combine intervening and moderating effects for both larger and smaller market stocks.

The relationship between CG and the value mining companies listed on the Indonesia Stock Exchange was looked into by Haryono and Paminto (2015) between 2009 and 2014. The purpose was to discover the relationship between CG and corporate value, as well as how risk and financial performance directly impacted CG. The information disclosure index used to investigate this relationship was created using OECD corporate governance laws. Firm values were measured using Tobin's Q and price-to-book measures in this study, while financial performance was assessed using ROA and net profit margin, and firm risk was estimated using systematic and idiosyncratic risks, and the data was then analyzed using structural equation modeling (SEM). Furthermore, the same study found a direct relationship between corporate governance and financial performance, as well as a significant negative relationship between corporate governance and company risk, a relationship that mediated the two. This implied that listed firm values and corporate governance had no relationship when risk was used as a mediator. Despite spanning ten years in order to find more phenomena through the use of moderating and intervening effects, this five-year study is relevant to the current investigation.

Rehman, Ramzan, Haq, Hwang, and Kim (2021) investigated the role of risk management in mediating the relationship between CG and financial performance in

Pakistan. This was done in response to a severe lack of research on how risk management affects the relationship between CG and financial performance. In the study, risk management was found to play a role in mediating the relationship between board size, foreign ownership, and financial performance. One of the primary motivations for conducting this study in Kenya, as well as in the context of a developing economy, was a lack of knowledge about idiosyncratic risk in the relationship between CG and the value of NFLCs.

2.3.3 Firm Value, Corporate Governance, and the Economic Factors

Economic factors are the underlying market and economic information taken into account when determining the value of an investment or business. In other words, these companies and investors must consider factors other than the asset's intrinsic value when determining the value of an investment (Broadstock, Shu & Xu., 2011). Corporate governance entails taking into account crucial economic factors in order to build strategies that increase firm value (World Bank, 2015; Broadstock et al., 2011). Economic factors are generally thought to be outside of management's control and can have an impact on a company's profitability and value (Dioha, Mohammed, & Okpanachi, 2018).

The links between the price index and major economic parameters, such as borrowing costs and price levels, were explored by Megaravalli and Sampagnaro (2018). This study examined the long- and short-term effects of the top three Asian economies, particularly the security markets of India, China, and Japan, from 2008 to 2016. Japan was particularly concerned about the performance of emerging market securities markets (such as India and China) in comparison to developed economies

such as the United States. This was because of their swift economic development and unique qualities, where China and India were given the moniker "Asian tigers." These nations were also able to establish themselves as significant emerging markets owing to their sizable economies, sizable populations, and rapid economic growth. To generate long- and short-run statistical dynamics, the authors combined unit root with co-integration, Granger causality, a mean group estimator, and Granger causality. While the exchange rate had a large and positive long-term impact on the securities markets, inflation had a significant but moderate impact. According to this analysis, the short-term relationship between macroeconomic conditions and security market returns was not statistically significant. The previous study focused on macroeconomic conditions and market returns, whereas the current study broadened the scope by considering the moderating effect of economic factors on the relationship between CG and NFLC value.

Acikalin, Aktaş, and Unal (2008) investigated the relationships between securities returns and GDP, currency exchange, borrowing costs, and the balance of payments on the Istanbul Stock Exchange (ISE) in Turkey. Changes in Gross domestic product rates, currency exchange rates, and current accounts were shown to have a positive impact on the ISE index in this study. This had the implication that investors may evaluate the value of securities markets, market segments, and asset classes, giving them more knowledge to make investment decisions. Investors were able to accurately predict market trends, measure the success of their individual securities portfolios, and evaluate how well their asset managers were managing their assets. This study found that fluctuations in the securities market index also had an impact on interest rates, contrary to the researchers' predictions. Instead of considering a potential moderating or intervening role between corporate governance and listed

business value, this study concentrated on a direct relationship between economic fundamentals and stock returns.

Jan and Sangmi (2016) investigated the relationship between the board's responsibilities and financial performance and found that supporting comprehensive CG by providing strategic advice to achieve organizational goals and reviewing management's performance aided in performance improvement. Many corporate boards recognized the effectiveness of CG at this time in establishing internal regulations that would direct the board of directors in performing its duties. These approaches were criticized for failing to prevent anomalies and scandals and for maintaining good corporate governance. This finding contributes to a better understanding of the significance of CG in terms of the board of directors' responsibilities in companies. By broadening the scope of this study to include the moderating and intervening relationships of idiosyncratic risk and economic factors, respectively, we add to our understanding of the importance of CG in creating value for NFLCs.

Kimani and Mutuku (2013) examined the Nairobi stock market's performance in relation to inflation, GDP, and the net effective exchange rate from December 1998 to June 2010, and found a direct relationship between inflation, GDP, and stock market performance. Despite its focus on stock market performance, this study was relevant to the current one in terms of the role of inflation and interest rates in the economy. Instead of evaluating the performance of the securities exchange market, the current study examines the effects of economic factors on the link between CG and the value of listed enterprises based on various industries.

In the Pakistani non-financial sector, Naseer, Muhammad, József, and Judit (2021) investigated the effects of firm, industry, and macroeconomic dynamics of stock returns. Utilized were data from 80 companies during a 17-year period (2004-2020). The study literature that was available on stock performance emphasized institutional differences, macroeconomic and microeconomic factors, and asset pricing theories in particular. This investigation was expanded to determine whether there were any additional variables influencing stock performance, as well as providing new insights on regional, national, and firm-specific variables on the Pakistan Stock Exchange. The researchers discovered that firm tangibility, generosity, GDP, inflation, and money supply had adverse relationships with financial performance, size, growth, and dynamism, as well as exchange rates and oil prices, which had favorable ones. The current study, on the other hand, broadened its scope to investigate the share value of a firm whose stock trades in relation to its idiosyncratic risk and economic factors in determining the value of NFLCs to investors.

Wuhan, Suyuan, and Khurshid (2015) explored how interest rates affected investment in the Jiangsu province of China between 2003 and 2012. First and foremost, using the vector error correction model, this study found a negative long-run and a positive short-run relationship between the variables. Later, it was established that while other factors like market size, GDP growth, and preferential policies had a significant impact on investment, interest rates had little of an impact. Given that China's stock markets are among the largest in the world, with a total market value of US$12.2 trillion in 2020, implies that this study was conducted in a more developed economy. The current study, however, used the macroeconomic factors used in the previous study as moderating variables to investigate the relationship between CG and NFLC value in a developing country.

Rashid, de Zoysa, Lodh, and Rudkin (2010) investigated the impact of independent directors on the value of the Dhaka Stock Exchange's 90 non-financial companies between 2005 and 2009. This study found that independent directors could not contribute latent value and could only assist the listed company's economic strength in Bangladesh by increasing transparency. The report did caution, however, that value addition to the firm might not happen in a developing country like Bangladesh if institutional and cultural concerns are not addressed. The results made clear the need for institutions and regulators to work to harmonize international corporate governance standards, including codes and legislation. The moderating effects of economic factors and idiosyncratic risk-mediating effects on the relationship between corporate governance and firm value considered in the current study were not taken into account in their evaluation.

According to Goyal and Kakabadse (2019), board diversity has become a crucial instrument and can increase firm value when boards have a strong say in developing corporate governance guidelines. Unfortunately, their conclusions were at odds with past research that placed a strong emphasis on racial and gender inequalities. They essentially complained that other diversity-related characteristics like academic credentials and board member experience had been disregarded by the researchers. They also argued that there were still unexplored aspects of variety. The authors conducted a cross-examination of 42 board members of FTSE 350 companies to overcome these flaws in their research. The study discovered that functional diversity was more important to board members' job performance and management of external dependencies. Their findings have consequences for how a diverse and effective board of directors formulates policies. According to the study, only boards with functional diversity are able to manage the financial difficulties of a dynamic social,

political, and economic environment, leading to better value and firm sustainability. But it's important to note that the current study focused on how board functional diversity affects standards of corporate governance. The current study broadened the scope by looking at the relationships between CG and the value of NFLCs, as well as the intervening effects of idiosyncratic risk and the moderating effects of economic factors.

Machuki and Aosa (2011) conducted a cross-sectional study to investigate the relationship between the financial performance of 53 Kenyan listed companies and various economic components. According to the multiple linear regression of the combined effect of economic conditions and corporate performance in this study, economic factors had little effect on the value of listed companies in Kenya. This study did not take into account the intervening effects of idiosyncratic risk in the relationship between corporate governance and company performance, and it also had a low response rate in comparison to the current one, which had a high response rate.

Maune (2017) investigated the effects of improved corporate governance on economic growth in Zimbabwe, an emerging economy, between 1968 and 2015. A positive and negative association was found in the study when secondary data and multiple linear regression analysis were both applied. A substantial inverse relationship between corruption and GDP was discovered. Political stability and a lack of violent crime were two other economic indicators that were significantly positively correlated with rising listed firm values. Finally, the study found that accountability, legality, and government norms had no effect on Zimbabwe's GDP growth. The current study focused on the corporate governance variable because some empirical literature predicts it as one of the factors influencing economic growth and company value.

Furthermore, the new study's scope has been expanded to include moderating and intervening influences in the relationship between CG and the value of NFLCs at the NSE.

Vedrin (2015) examined the relationship between monetary policy and financial stability using knowledge gained from previous financial crises and central bank policies. Because there was no established theoretical framework for analysing the relationships between financial stability and monetary policy, providing precise policy advice was extremely difficult. The study was conducted to provide recommendations on how risks of financial instability should be taken into account in the information supplied to central bank decision makers due to the significant uncertainty surrounding the most effective analytical method. This study followed Vedrin's (2015) views, which asserted that inflation is a type of tax on the value of money that reduces demand for money and has a negative impact on the economy and investors. To test this view, inflation was used as one of the moderating variables in the study for the relationship between CG and the value of non-financial listed companies.

Fischer (2013) examined the connection between inflation uncertainty, investing, and the value of smaller companies using a panel of loan-level data. The goal of this study was to see if phenomena that aren't immediately obvious when looking at national or industry averages may be studied using micro-level data. According to this analysis, periods of more inflation uncertainty were linked to significant drops in overall investment. Additionally, during the research period, the investment structure, as measured by the debt ratio, swung sharply in favor of working capital, demonstrating good financial management, a sign of excellent governance quality. This study examined only smaller companies, using a direct effect to establish the relationship

between inflation and their value, but it ignored the potential moderating effects of economic factors in the relationship between CG and listed company value.

Ferreira and Laux (2007) investigated the relationship between idiosyncratic risk in security earnings and corporate governance practices, focusing on how it contributed to the development of antitakeover laws. Poor CG is associated with low levels of; idiosyncratic risk, trade activity, and firm investment efficiency, according to the findings of this study. This study found that low profitability was associated with higher levels of idiosyncratic risk and ineffective company investment. Various empirical methods and outside variables both had an impact on the outcomes. According to this research's conclusions, the generation of private information required market access for control, whereas the release of high-quality accounting data frequently drowned out or replaced private information. When the relationship between governance and volatility was taken into consideration, only the governance-independent component of volatility was demonstrated to be connected to the effectiveness of corporate investment decisions. This study supported the notion that information matters more than governance when making investment decisions. This study's findings highlight the significance of the efficient market hypothesis and the crucial role that information plays in firm-specific risk. The inclusion of idiosyncratic risk and economic factors as moderating and intervening factors, respectively, in the current study broadened this study.

Muhammad and Syed (2013) investigated the impact of CG and economic factors on the market value of non-financial companies listed on the Karachi Stock Exchange. This investigation also looked at how a company's financial management systems could increase its value by including the most significant macroeconomic aspects. To

obtain the most representative sample based on market capitalization, the sample for the study was drawn using a stratified systematic sampling technique. This study, which covered a 12-year period from 2000 to 2011, used secondary data. The Securities and Exchange Commission of Pakistan's corporate governance standards, established in 2002, and the International Financial Reporting Standards (IFRS), mandated in 2005, served as the foundation for this study. This analysis found that the stock was significantly impacted by earnings per share, corporate governance, and the rate of annual GDP growth. On the other hand, there was statistically little relationship between the price of shares and the money supply, inflation, or inflation. This study found that implementing corporate governance codes and mandating the use of IFRS had a positive and significant impact on the company value of listed firms. By incorporating economic factors as moderating variables in the relationship between CG and the value of NFLCs on the NSE, the current study expanded the focus beyond a direct relationship between CG and macroeconomic factors.

Tarek (2017) studied the relationships between CG and GDP growth. Excellent corporate governance practices were found to be connected with an economy's investment level and GDP growth. Secondly, they found that the nation's lax legal system was to blame for the country's inadequate corporate governance measures. The study's findings challenged some preconceived notions about the impact of corporate governance on investment and GDP growth. Because the previous study's findings were related to the role of a country's institutions, they were incorporated into the current study, which expanded its scope to include GDP growth as a moderating factor in the relationship between CG and the valuation of listed non-financial companies.

From 2008 through 2017, Ahmad, Bakar, and Junoh (2021) assessed how the macroeconomic environment affected the value of listed Nigerian companies. They employed 300 firm-year observations and panel data analysis. This study found that the EV/EBITDA ratio, which measures firm value, was significantly positively impacted by GDP growth, inflation, and interest rates. The study focused on three control factors to assess the relationship between corporate governance and corporate value: the size of the board of directors, the company, and the firm's development. The number of directors on a company's board of directors was found to be less closely related to listed firm valuation than GDP growth, inflation, and currency rates. These variables were included in the current study as economic factors, and the scope was broadened by combining them with idiosyncratic risk to determine how they can jointly explain the relationship between CG and NFLC value on the NSE.

2.3.4 Firm Value, Corporate Governance, Idiosyncratic Risk and Economic Factors

Based on the OECD's (2021) advisory on solid governance procedures, firms must manage their unique risks in order to address the effects of dynamic economic factors in their operating environment and market. This guideline underlines the importance of governance procedures since managers in companies must make wise judgments, accomplish strategic goals, and satisfy internal and external stakeholders. It goes on to argue that in today's business and economic environment, good corporate governance is no longer viewed as a reactive process but rather as a proactive method of managing and realizing business opportunities that must be linked to stakeholders' expectations and, ultimately, the firm's strategy. Businesses can use a variety of strategies to boost profits, including understanding consumer preferences, offering the right supplies to them, and maintaining high standards for goods and services. Even

though this procedure is straightforward, it is nonetheless substantially influenced by a variety of elements, including a company's production, procurement, and sales volumes, all of which are significantly influenced by economic factors. This recommendation was put to the test in the current study, which sought to investigate the moderating effect of economic factors on the relationships between CG and NFLC value at the NSE.

Gokgoz and Altintas (2013) used the Campbell, Martin, Malkiel, and Xu (2001) technique to investigate the effects of market-wide and idiosyncratic risk on CG in the Istanbul Stock Exchange's actual market conditions from 2007 to 2010. The idiosyncratic risk was considered to be the most significant element contributing to total market volatility in our analysis, despite the lack of any clear pattern. Additionally, when using market value weights, small and large companies exhibited the same idiosyncratic risk characteristics despite smaller stock volatility being far lower. Finally, this analysis came to the conclusion that the propensity for numerous idiosyncratic risk indicators to forecast future returns is not particularly high.

The dependent variable in this study was CG, and the independent variable was an idiosyncratic risk. The current study, however, broadened the scope by including value and investigating the intervening effects of this risk in the relationships between corporate governance and the value of non-financial companies.

Pallegedara (2012) investigated the relationship between securities market returns and interest rates in Sri Lanka over an eight-year period using the share price index as a metric of stock market performance (2004–2011). The variables were subjected to the unit root and cointegration tests, as well as the vector auto-correcting model VECM, the Garch test, and impulse response functions, to test the relationship between the securities market index and interest rate. While there was no causal relationship in the

short run, the findings revealed that the performance of the securities market was negatively related to interest rates in the long run. In this study, the price index was determined based on the effects of interest rates. The current study, on the other hand, broadened the scope to include idiosyncratic risk and more economic factors to test their intervening and moderating effects in the relationship between corporate governance and NFLC value, and thus different methodologies expected different results.

After the 2008 financial crisis, Toledo and Bocatto (2015) investigated the relationship between CG and securities market performance in Canadian listed companies. This study used a variety of econometric methodologies to account for endogeneity in CG and discovered that larger companies with stronger CG principles had a greater market-to-book ratio. This study was motivated by investors' concerns about governance standards in Canada and the significant losses suffered by good companies in other developed economies. Despite Canada's strong investor protection laws, investors' confidence suffered greatly as a result of the enormous losses suffered by ordinary investors both during and after the crisis. According to the study, large firms and firms with higher market-to-book values that had adopted better governance standards had a negative effect on the relationship between corporate governance and stock return. The study's findings established a negative relationship between corporate governance and the market-to-book ratio performance of firms listed on the Canadian securities market. These findings were useful to policymakers who had recently proposed changes to the Canadian regulatory system. According to the study, market enforcement and self-regulation were also unlikely to be effective mechanisms for implementing best practices in corporate governance.

In contrast to the Canadian case, the current study concentrated on the selected NFLCs in the context of Kenya as an emerging nation versus Canada as a developed nation. The preceding study looked at the relationship between corporate governance and firm performance in a developed economy with a higher level of investor protection than in Kenya. Such contextual factors can influence the findings of a similar study. In addition, compared to the previous study, which focused on a direct relationship, the current study broadened its focus by considering the moderating effect of economic factors and the intervening role of idiosyncratic risk in the relationship.

Taslim (2017) investigated how risk and corporate governance affected the performance of companies listed on Bursa Malaysia in the food and beverage sector. This was essentially a five-year study (2011–2015) in the food and beverage industry that determined how idiosyncratic risk factors affected the sector's performance. In this study, firm-specific factors included board of director compensation, firm size, leverage, the average collection period, and liquidity risk, while external factors included GDP and inflation. Firm size, liquidity risk, board of director remuneration, and financial performance were all found to be positively associated with correlation analysis. Leverage, credit/counterparty risk, GDP, and inflation all had a negative impact on the company's performance. This study looked at a single industry and used firm-specific risk indicators such as firm characteristics and corporate governance to test a relationship with company performance. The current study, on the other hand, broadened its scope to investigate the relationships between corporate governance and firm value using economic factors as moderators and idiosyncratic risk as mediators. Using the daily prices of the securities of the 29 non-financial listed companies, the idiosyncratic risk of each firm was determined.

Buchdadi, Ulupui, Fauziyyah Pamungkas, and Dalimunthe (2019) assessed over a four-year period the effectiveness of board of director meetings, which are typically acknowledged as the most successful method for measuring job effort and efficiency in both monitoring and counseling firms between 2013 and 2016. Data from 135 listed Indonesian firms were analyzed using panel data regression analysis and market and accounting measurement techniques, and it was discovered that independent directors' board meetings had a positive impact on the firm's value. In that respect, the study recommended that boards of directors conduct thorough audits if they want to reduce corporate risks. This implied that agency theory and board meetings were inextricably linked and played an important role in monitoring operations in order to increase firm value. The aspect of board meetings was incorporated in the current study, which also effectively broadened the concept of corporate governance by incorporating other four corporate governance mechanisms, as well as taking into account the moderating effect of economic factors and the intervening role of idiosyncratic risk in the relationship, whereas the previous study focused on a direct relationship.

Javed and Iqbal (2007) examined the cross-sectional relationship between corporate governance and Pakistani securities market share value in a sample of 50 companies listed on the Karachi Stock Exchange using Tobin's Q and the corporate governance index. While not all aspects of corporate governance are important, they do matter in Pakistan because, while board composition, ownership, and shareholding control improved firm performance, disclosure and transparency had no significant effect. According to the study, before crucial strategies for developing stakeholder value could be developed, the function of independent board members needed to be thoroughly examined because poor management techniques could not be concealed by

transparent disclosures and high standards. Despite the fact that this study found that not all CG processes increased a company's value, the scope of the current study was expanded to include the intervening effect of idiosyncratic risk in the relationship between CG and the value of listed non-financial companies, which the previous study did not.

Fuzi, Adliana, and Julizaerma (2016) investigated the importance of the board of directors as a body that should represent the interests of its shareholders in the firm's evaluation. This was brought about by the corporate governance code and regulatory agencies' recommendations that independent directors make up the majority of the board. Non-executive directors needed independence from management to perform their duties effectively, provide objective business judgment, minimize agency concerns, and serve the interests of shareholders. A number of international studies on the relationship between board independence and firm performance have revealed a variety of outcomes. As a result, despite having the highest proportion of independent directors, it was unclear whether these companies would achieve better financial results. This study, however, revealed that independent directors performed poorly and advised that if independent directors on the board are not monitored, the value of firms will not increase. However, the current study broadened the scope by incorporating additional CG mechanisms, with idiosyncratic risk serving as one of the intervening variables and economic factors serving as moderating variables in the relationships between CG and NFLC value at the NSE.

Kallamu (2016) investigated the effects of a new CG rule on the 37 publicly traded financial institutions in Malaysia that had a financial audit committee following the Asian Financial Crisis of 1997–1998 and the preceding corporate financial scandals.

Corporate governance regulations had eroded investor confidence in the stock market and had been amended to address corporate risk issues. The results of this study indicate that corporate risk and the audit committee had a negative impact on the market values of the companies before the financial crisis and regulatory changes. According to this study, after the amendment of corporate governance laws, the performance of audit committees and companies improved dramatically as measured by Tobin's Q, implying that the reform of corporate governance laws actually increased the value of listed financial companies.This study, on the other hand, looked at publicly traded non-financial companies and took into account the problem of revised codes, which the current study adopted with a broader focus on intervening and moderating variables in the relationships between CG and the value of non-financial listed firms.

Zang and Erasmus (2016) investigated the relationship between corporate performance and ownership structure for Chinese companies listed in emerging securities markets. Based on panel data from 153 companies with 459 observations over a three-year period, the findings revealed a negative relationship between tradable state-owned shares and firm performance. The top ten largest shareholders, on the other hand, revealed a positive correlation between corporate performances. This three-year study, conducted between 2009 and 2010, looked at control industry variables like business size and debt-to-asset ratio. The current study, on the other hand, spanned ten years and had a broader scope, with the intervening effects of idiosyncratic risk and the moderating effect of economic factors explaining the relationship between the CG and the value of NFLCs listed on the NSE.

Between 2010 and 2014, Khan, Tanveer, and Malik (2017) examined the board sizes and CEO duality of 91 non-financial companies for the relationship between corporate governance and firm value as measured by Tobin's Q. Audit committees and non-executive directors were found to have a negative relationship with firm value, whereas board traits, board autonomy, independent auditor, and CEO dualism were all found to have a positive relationship with firm value. Whereas the previous study was a direct study, the current study expanded the focus to include the moderating effects of economic factors as well as the intervening/mediating effects of idiosyncratic risk in evaluating the relationships between CG and the value of NFLCs traded on the NSE.

Between 2014 and 2018, Khan, Khan, and Zhang (2019) investigated the relationship between board composition and the performance of Pakistan Securities Exchange-listed firms using ROA and ROE. The research revealed that NEDs, board independence, size, and financial leverage had a significant positive impact on both ROA and ROE, whereas gender diversity had a negative impact. The preceding study explored the interactions between CG and the value of listed firms using control variables, whereas the present study used a non-experimental design with an expanded scope to examine the moderating effects as well as the intervening effects to investigate the relationships between CG and NFLC value.

Heenetigala (2011) examined the relationship between corporate social responsibility reporting, board committee composition, and value in Sri Lanka-listed firms using market and accounting measures. The study concentrated on the country's five years of civil unrest between 2003 and 2007, during which time corporate governance was critical for firm survival due to difficult economic and political environments.

According to the findings of the study, which considered both corporate social responsibility and corporate governance when determining the value of publicly traded companies, effective corporate governance implementation and the importance of CSR initiatives are closely related to firm profitability. The current study, however, excluded the aspect of corporate social responsibility, broadened the scope of CG, and took into account the intervening/mediating effects of idiosyncratic risk as well as the moderating effects of economic factors in the relationships between CG and the value of NFLCs in order to analyze the relationships between CG and the value of NFLCs.

Delia (2015) examined idiosyncratic risk and then CG on the relationship between corporate governance and financial performance in the Australian market using a two-study approach. The approach taken in this study looked at ownership structure, board structure and makeup, and internal governance controls, all of which were important aspects of corporate governance in the Australian market. This study found a significant positive relationship between ownership structure, idiosyncratic risk, and the listed value of listed companies. Since this study was conducted in a more developed economy than Kenya, contextual differences may have an impact on the results. To investigate the relationships between CG and the value of non-financial listed companies, the current study used the variables from the previous analysis and broadened the scope by taking into account the intervening/mediating effects of idiosyncratic risk as well as the moderating effects of economic factors

Iraya, Mwangi, and Muchoki (2015) looked at the connections between board size, non-executive directors, ownership, and earnings management for 49 continuously listed NSE companies between 2010 and 2012. Earnings management was found to be positively related to board involvement and CEO duality but also negatively

related to concentrated ownership, board characteristics, and independent directorship using secondary data and a linear regression technique. This study emphasizes the significance of strict corporate governance rules in Kenya's publicly traded companies in order to achieve lower earnings management and prevent the collapse of listed firms. The current study looked at the value of non-financial listed firms, adopted corporate governance mechanisms from the previous study other than board size, and broadened the study scope by taking into account the intervening/mediating effects of idiosyncratic risk as well as the moderating effects of economic factors in order to evaluate the relationships between corporate governance and the value of non-financial listed firms.

Oluwatosin, Obiamaka, Ibukunoluwa, and Jesutofunmi (2019) examined the relationship between internal and external corporate governance and company value using data from the Nigerian stock market from 2012 to 2019. They were motivated by the slow rise in firm value and the rise in fraud cases. Internal CG, as opposed to external CG, was found to have a positive and significant impact on firm value. Despite these findings, the current study expanded its scope to examine the relationships between CG and the value of non-financial listed companies while accounting for the intervening effects of idiosyncratic risk as well as the moderating effects of economic factors.

2.4 Knowledge Gaps and Summary of Empirical Findings

The empirical reviews in sections 2.3.1 to 2.3.4 and table 2.1 have a number of contextual and conceptual deficiencies. Based on the findings of the empirical evaluation, this study attempted to fill a number of research gaps through an analytical literature review. This study looked at corporate governance, idiosyncratic risk,

economic factors, and firm value in developed and emerging countries. In order to fill a knowledge gap, the study investigated the roles of independent directors, women on boards, institutional ownership, and the audit committee in optimizing non-financial listed company values. There has been very little research on gender as a source of diversity and idiosyncratic risk in relation to the value of non-financial listed firms in developing countries, which is what this study aimed to do.

Economic factors' moderating effect on corporate governance has been empirically researched, with much of the literature coming from industrialized economies. The knowledge gap that motivated the current study was revealed by a review of the empirical literature on economic factors, corporate governance, and idiosyncratic risk influencing the relationship between corporate governance and the value of companies listed in both developing and developed economies. Finally, no empirical research in the data sets found instances of idiosyncratic risk jointly affecting the relationship between CG and the value of firms in developing countries, whether financial or non-financial firms. This resulted in a research gap, which was filled in the fourth chapter of this study.

Contextual differences arose as a result of the fact that much research has been undertaken in industrialized countries, where empirical literature assessments of the relationship between CG and firm value delivered mixed results. The majority of these studies ignored the intervening and moderating effects in the relationships between CG and firm value, resulting in conceptual gaps. In this study, the effects of idiosyncratic risk and economic factors, such as the GDP rate, interest rate, and inflation rate, on the relationship between the value of CG and non-financial listed companies were investigated. The methodological gaps were filled with intervening and moderating effects, yielding empirical evidence that CG had no effect on

corporate value in Kenya. Tobin's Q was used to assess the relationship between corporate governance variables such as board independence, diversity, ownership concentration, audit committee activity, board involvement, and non-financial firm value (Zaman, Arslan, & Siddiqui, 2015).

Table 2.1 Summary of the Literature Review and Research Gaps

Author(s)	Emphasis	Methodologies	Outcomes	Knowledge Deficiency	Research Goals
					The effect of idiosyncratic risk and corporate governance on the value of non-financial companies was explored in this study.
Habashy (2019)	In Egyptian publicly traded companies, the relationship between board and ownership structures and corporate performance.	A multidimensional composite measure that includes board characteristics and ownership structure is used to assess corporate governance and firm performance in 240 observations using ROA, ROE, and Tobin's Q.	Ownership concentration and concentration of ownership had no impact on accounting or market performance, however the Governance Index had a significant and positive impact on the stock market index.	This study used a shorter period with fewer observations and corporate Governance elements. The study did not consider the economic factors	Use panel data analysis and more corporate governance elements economic factors and Idiosyncratic Risk are introduced.
Briano-Turrent & Rodríguez Ariza, 2016; Khan et al., 2017		The ratio of non-executive directors to total board members			Additional corporate governance factors are being explored in the current study over a ten-year timeframe.
Wharton, 2017	Is it true that having a diverse board of directors improves company performance?	Meta-analytic techniques.	There was no evidence that firms with more females in the higher echelons (as CEOs or members of the TMT top management team) had lower long-term success.	Meta –analytic methodology used may produce a misleading results if the data analysis was done without any previous knowledge or being an expert hence problem of publication bias can arise.	Additional corporate governance parameters were included in the current study to more thoroughly examine the value of publicly traded companies over a ten-year period.
Rashid (2018)	Board independence		Board independence and firm economic	Further, the study was conducted in	The current study covered only listed

	and economic performance among listed firms in Bangladesh.		performance does not positively influence each other. Board size has significant positive influence on both board independence and firm performance	Bangladesh in USA and therefore the findings may not be generalizable to the current study.	non-financial firms in Kenya on which Idiosyncratic Risk was analysed alongside economic factors for the relationship .
Taslim, M.B. (2017)	The elements that influence a company's profitability in Malaysia's food and beverage industry.	Descriptive statistics and correlation analysis	Board of directors remuneration, firm size, and liquidity risk all have a positive relationship with corporate performance, according to correlation research findings.	The study covered five years. The study was neither mediated/intervened nor moderated. It also combined CG with other factors.	The current study included more CG elements, extended the period of study to ten years and carried out a further panel data analysis
				.	To extend the study to all the sectors, consider ten year period, include the economic factors and idiosyncratic factors
Oludele, (2016)	Board independence and the financial performance of listed manufacturing companies in Nigeria.		A significant positive linear relationship between board independence and financial performance.	The study focused only of manufacturing firms and was carried out in Nigeria. The context and findings may not be generalized to a study in Kenya.	Expanded the focus to include all the non-financial listed companies in Kenya.
Puni, A.1., Addiyiah, B. O., & Ofei, S. B. (2014	The Impact of board composition on listed firms' financial performance in Ghana.	Using panel regression model	The financial performance of the companies improved.	Only corporate governance and board composition were discussed.	The study considered five corporate governance aspects, intervened and moderated the variables

Cheung, Estanislao,Limpaphayom, Lu & Utama (2014)	In Asian emerging economies, corporate governance and firm valuation.	Survey study, descriptive statistics and regression analysis	A relationship between corporate governance and company value was established using the Tobin Q ratio.	The research looked at the largest public companies in five Asian countries, totalling 2,687 companies. The study was neither intervened nor moderated in any way.	The study covered all sizes of firms, study intervened/ mediated and moderated.
Chou et al., (2013); Grove, Patelli, Victoravich, & Xu, (2011); Hoque et al., (2013)	The impact of various corporate governance theories on the performance of publicly traded companies.	This study only used multiple regressions and descriptive statistics in the analysis of data.	The Tobin Q ratio and return on assets were crucial measures in the relationship between corporate governance and firm performance.	economic factors, as well as idiosyncratic risk, were not taken into account.	To extend the study to non-financial sectors, include the economic factors and idiosyncratic factors.
Ongore & Kusa (2013)	Financial performance of Kenyan Commercial Banks: Determinants	Panel data, linear multiple regression model and OLS	Foreign exchange rates, interest rates, inflation, and GDP volatility all had an impact on a bank's profitability.	The study considered Banks only, was inconclusive and did not consider idiosyncratic risks.	To study more sectors and address issues of inconclusiveness. To consider idiosyncratic risks
					To increase a response rate using secondary published financial statements, consider Idiosyncratic Risk and economic factors .
Enoma & Mustapha. (2010).	An examination of the factors that influence investment decisions in Nigerian insurance firms. companies.	Individual survey and Exploratory factor analysis	Economic factors, affect investment decisions.	The findings considered one service sector, the Insurance industry and did not consider Idiosyncratic Risks.	To consider ten sectors in the study and Idiosyncratic Risks.

Brown & Kapadia (2007).	A study of Firm-Specific Risk and Equity Market Developments	Panel data, Simple Averages, market-capitalization weighted averages and Descriptive Analysis	Initial listing result is not affected by small companies becoming riskier.	Did not consider corporate governance issues in evaluating firm value	Introduced corporate governance issues in measuring market value.
Black &Khanna (2007).	Is there evidence that corporate governance reforms can increase a company's market value?	Event study, cross sectional analysis Regression analysis.	Found that corporate governance improvements increased firms values for both small and large firms	Used a legal approach and the study was not moderated.	The study intervened/ mediated and moderated

Source: (Researcher, 2022)

2.5 Research Hypothesis and Conceptual Framework

The study's independent variable was corporate governance, as measured by board independence, board diversity, ownership concentration, and board and audit committee meetings. According to Chen et al. (2011), board independence in corporate governance is defined as a non-executive director's ability to protect shareholders' interests, reduce agency costs, and raise a firm's value in his or her capacity as a non-employee of the firm. Board diversity, according to Lone, et al. (2016) studies, is defined as a process of developing a broad range of demographic qualities and characteristics in the boardroom or is a simple and common approach fostering heterogeneity in the boardroom. For the purposes of this study, diversity was defined as the percentage of female directors on boards of directors, whereas ownership concentration was defined as the percentage of publicly traded firms' shares owned by East African institutions (Bayrakdaroglu, 2010; El-Habashy, 2019). Based on Salem, Metawe, Youssef, & and Mohamed's (2019) study in comparing developed and developing countries, board meetings were used to indicate board activity. Furthermore, audit committee meetings replicated board activities and relied on Kallamu's (2016) emphasis on the audit committee's role in supervising the firm's internal controls systems and ensuring compliance with laws and regulations. Using Chung and Pruitt's (1994) modified Tobin's Q ratio, the current study investigated the relationships between CG, idiosyncratic risk, and the economic factors factors with the value of non-financial companies.

The effect of corporate governance on company value was studied through the intervening effect of idiosyncratic risk when idiosyncratic risk was used as an intervening variable. This was predicated on Rajgopal and Venkatachalam's (2011) finding that idiosyncratic risk was difficult to identify, yet the firms needed to manage it to reduce profit volatility and increase shareholder value.

The effect of the economic factors was explored in the moderated relationship between corporate governance and non-financial listed firm value, and was represented by GDP growth rate, interest rate, and inflation rate as indicators. According to Alpera and Anbar (2011), moderating variables enable investigators to determine whether factors have the same relationship across groups.

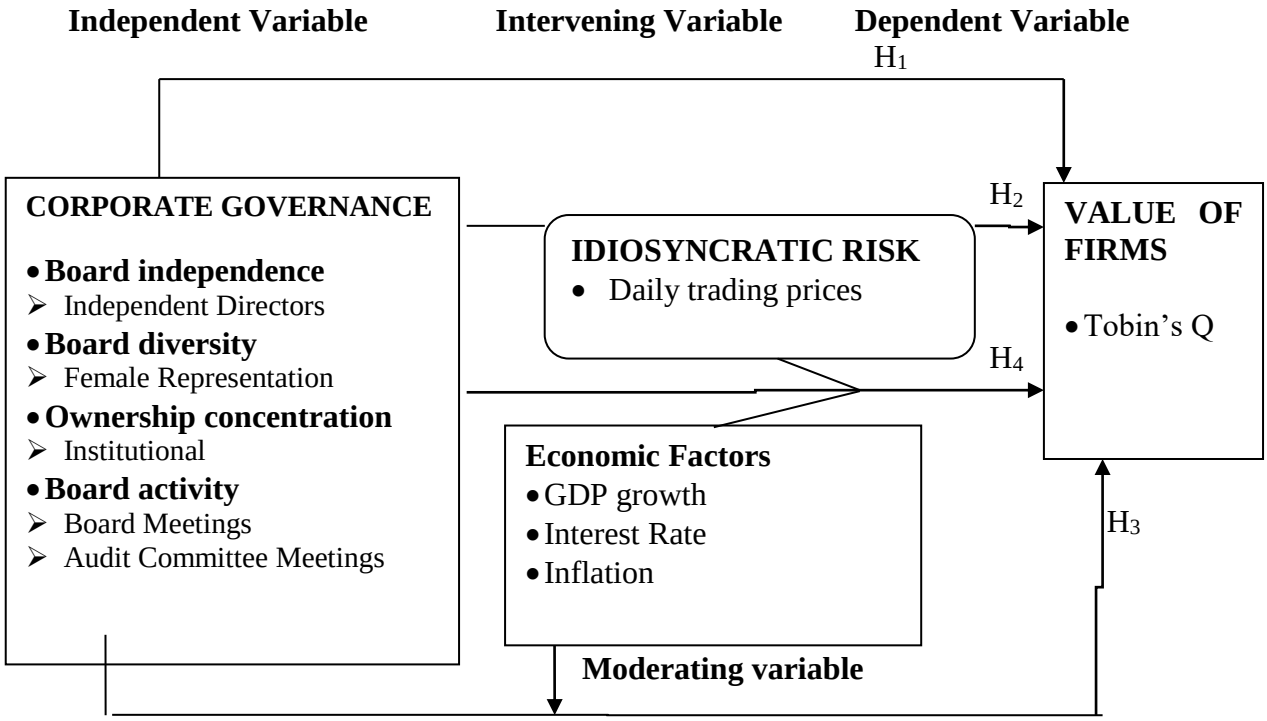


Figure 2.3 Conceptual Model

Source: (Author, 2022)

2.6: Hypotheses for Investigation

The study examined the following null hypotheses:

H_1: The relationship between corporate governance and the value of non-financial companies listed at the Nairobi Securities Exchange is not significant.

H_2: The intervening effect of idiosyncratic risk on the relationship between corporate governance and the value of non-financial companies listed at the NSE is not significant.

H_3: The moderating effect of economic factors in the relationship between corporate governance and the value of non-financial enterprises at the Nairobi Securities Exchange is not significant.

H_4: the joint effect of idiosyncratic risk and the economic factors on the relationship between corporate governance and the value of non-financial companies at the Nairobi Securities Exchange is not significant

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The philosophical perspective, research technique, target population, means of data collection, study variable operational definitions, diagnostic tests, and data analysis are all covered in this chapter.

3.2 Research Philosophy

Philosophy is a field of science that investigates the inner workings of real-world systems, with an emphasis on reality, awareness, and existence. What we see as reality is inextricably tied to our personal perception of the world. However, when it comes to research studies, it's critical to understand how a researcher sees reality. The way one learns knowledge is influenced by one's perspective of reality. As a result, a researcher's view of reality and how information is acquired have an impact on how research investigations are carried out. As a result, researchers must choose an appropriate model and philosophical premise for their research (Burrell & Morgan. 1979). Philosophical perspectives impact research techniques, but a logical perspective requires the researcher to make critical decisions. These are the elements of positivism and phenomenology that create the foundation of knowledge on which a study's assumptions and predispositions are built (Easterby-Smith et al., 2008; Hughes & Sharrock, 1997).

There are two paradigms used to drive research in the social sciences: positivist and phenomenological. Instead of being self-contained, phenomenological researchers are active participants in the research process. The term positivism refers to a philosophical school that rose to prominence in the early 1800s (Richards, 2003). Positivism asserts that there is a reality that exists beyond humans. It follows fundamental laws and does not rely on human senses to function. Realism is positivists' ontological perspective. Positivists aim to understand the social

world in the same way they seek to explain the natural world. Natural manifestations have a causal relationship that, once proven, can be used to confidently forecast the future. Reality is context less, according to positivists, because researchers examining the same events at different times and places will provide similar results. Positivism refers to an epistemological perspective in which scholars operate as objective observers of occurrences that are beyond their control or influence. They tell the story in its entirety, with no alterations to the language or symbols (Veal, 2005).

The quest for primal causes, according to Comte, should be left to religion or metaphysics, and positivism should be limited to basic connections between observable variables (Stadler 2012; Comte, 1988). Comte's positivist philosophy was solely focused on creating observable logical connections as well as standards amongst objects, without making any attempt to examine or explain them. This positivist paradigm employs statistics to explore phenomena, whereas the phenomenological paradigm concentrates on the immediate experience and description of things as they are, rather than what the researcher believes they are (Easterby-Smith et al., 2008). Because this study was based on existing knowledge or empirical literature, a positivist research philosophy was utilized. Positivism is also characterized as scientific, rationalist, analytical, or logical thinking because it seeks explanations and predictions of what transpires in society by evaluating coherence and causative relationships among its constituent components (Burrell & Morgan, 1985).

The philosophy of deduction is related to positivism, and it satisfies the criteria for establishing a causal relationship between variables as well as the generalization of study findings (Saunders, Lewis, & Thornhill, 2009). This study involved a deductive rather than an inductive method since it was based on scientific principles that required verifying hypotheses rather than generating new ones (Robson, 2002).

This study resulted in the formulation of four hypotheses that were tested scientifically. For the corporate governance, idiosyncratic risk, and economic component variables of the study, quantitative information was acquired from the Kenyan central bank and the yearly financial statements posted on the websites of the CMA and NSE. Multiple regression models that were generated for each hypothesis test and used the deductive method to generalize the results were fitted to these data with the aid of a conceptual structure. This study determined that this strategy for achieving research objectives was appropriate because it adheres to positivist philosophy's core principles.

3.3 Research Design

Under this inquiry, a research design provides the structure and plan to ensure that the research problem is solved. A research design provides an illustration of the entire study process, from developing hypotheses through operational implications, data processing, and interpretation (Thaku, 2021). A study design describes how research questions were answered by laying out the components of a study, such as suggested logistical arrangements, measuring methodologies, sampling strategy, analysis frame, and scheduling.

The three types of study designs are exploratory, causal, and descriptive research designs. Exploratory research is the initial stage of a research thesis, and it aims to discover new things about phenomena, identify a topic for further investigation, and formulate a hypothesis. The goal of causation study is to determine how variables interact and cause one another. It reflects the testing of hypotheses for a causal effect (nomothetic perspective) when a change in one occurrence, the independent variable, causes or results in a change in another phenomenon (Sekaran & Bougie, 2013).

The connections between these study variables were described using a correlational descriptive research methodology. Descriptive studies seek in-depth answers to questions such as who, what, when, where, and how in groups, businesses, and specific individuals, and the idea is that the researcher observes and then explains what he or she sees (Creswell & Creswell, 2018). In investigating the current state of events related to the current study, descriptive design responded to questions as set out in the questionnaires (Islamia, 2016).

Descriptive designs are useful when the variable is studied in a totally natural and undisturbed setting. The correlation design is used by researchers to determine the level of relationship among one or more elements as well as changes in a phenomenon over time (Frees, 2004; Sekaran, 2003). Descriptive design can also be longitudinal, which means that data is collected at different times across time. Trend studies, which look at population characteristics over time; cohort studies, which follow a sub-population through time; and panel studies, which follow the same sample over time, are all examples of this type of data gathering (Kothari, 2011; Hughes & Sharrock; 1997; Sekaran, 1992). The longitudinal descriptive research was applied in this study to produce a description of the relationship between CG, idiosyncratic risk, the economic factors, and the value of listed companies. Ongore and Kusa (2013) used a similar study approach to figure out what factors influence the performance of Kenyan commercial banks.

3.4 Population of the Study

As specified by the researcher's sample criteria, the population is made up of a variety of items that have a common attribute. It is typically made up of groups, such as the target demographic and the on-hand population. The total group of people or machines that the researcher is interested in is referred to as the objective population (also known as the universe or figure population) (Kumar, 2011). The 47 non-financial companies that were included provided the sample for the study, from which 29 companies were identified based on information obtained

from company websites and other information posted to the NSE website between January 1, 2010, and December 31, 2019. To quantify idiosyncratic risk, the twenty-nine (29) firms considered for this study had to adhere to at least a 20-day trading period in the month for 10 years at the NSE.

Publicly listed companies were chosen as the non-financial companies' sample because they have specific corporate structures, and legal operating mandates, and are anticipated to have nuanced relationships between the research variables. Therefore, these companies served as the foundation for the study's definition of an impartial evaluation of market value. Financial services companies were omitted from this study because of their special characteristics, such as being significantly more leveraged and vulnerable to financial risks. Financial companies were also excluded from the Fama and French (FF) methodology used in this study to identify idiosyncratic risk due to their significant leverage. Fama and French hypothesized that because this leverage does not represent the "distress" associated with high leverage in non-financial companies, it could skew the outcomes of the investigation. This study recognized that when non-financial companies employ debt and equity raised from bondholders and equity investors, including banks, to make investments, it is referred to as "capital."

Financial institutions appear to view debt capital provided by banks to non-financial institutions as raw material that can be molded into a range of financial products and then sold for a profit. As a result, it appears that the capital of financial companies is more precisely defined, taking solely equity capital into account. Customers' deposits into bank accounts, for example, would be viewed by the bank as a debt, making the definition of debt in a financial firm appear to be more ambiguous than in a non-financial firm, hence the reason for the exclusion of financial companies.

Financial companies are also excluded because there isn't much of a difference between a deposit and debt that the bank issues on interest-bearing accounts. Since interest payments are frequently the biggest single expense for banks, if this is categorized as debt, operating revenue must be assessed before interest payments to depositors. Given that it was challenging to distinguish between the capital structures of financial and non-financial companies from which Tobin's Q was derived, financial firms were thus left out of this study. In US-based studies, Barber and Lyon (1997) took advantage of this exclusion by treating the financial firm sample as a holdout sample.

3.5 Data Collection

Data collection is a method or system for obtaining and monitoring data over time on variables of interest in order to respond to inquiries, test hypotheses, and compare results (Kabir, 2016). The CMA website was utilized to acquire quantitative secondary data over the period for NFLCs from January 2010 to December 2019, and the selected firms were then documented in Microsoft excel sheets. A cross-section of audited public financial statements for the ten-year period was used to collect secondary data on the listed NFLCs' governance practices and values (2010–2019) using the CMA database. Data on the economic factors, such as economic growth, borrowing costs, and annual inflation, were provided from the central bank of Kenya database, the CMA database, and the Kenya National Bureau of Statistics. The idiosyncratic risk value was calculated using the daily share prices traded on the NSE. Requests were made to the company's management when data was not readily available. Given that the panel longitudinal data used in the study assessed the same units, a ten-year period yielded 290 observations, and recommendations require a large sample of at least 200 observations (Baldawin, 1989). Because the trends or changes in economic factor variables in this study are relatively slow to manifest, a ten-year timeframe was deemed suitable to show the effects of corporate governance decisions and their effects on the value of NFLCs. Therefore, ten years' worth of data collected

for quantitative analysis can produce more meaningful research contributions. Twenty-nine (29) firms contributed data for ten (10) years and twelve (12) months, totaling three thousand four hundred and eighty (3, 480) data points. The research was carried out using a longitudinal panel data study of NFLCs listed on the NSE. To highlight potential multicollinearity concerns, the data were subjected to tests such as descriptive statistics, correlation analysis, and serial correlations.

The panel data survey enabled a rigorous technique to be used, allowing continuously listed companies to be tracked throughout time. Panel data analysis involved a large number of observations, resulting in more degrees of freedom, lower collinearity among explanatory factors, and higher econometric estimation accuracy. According to Kyereboah-Coleman (2007), longitudinal research allows a researcher to investigate major economic issues at multiple locations over a specific period of time, but cross-sectional or time-series data sets do not. Panel data analysis is used in finance and economics to examine how companies operate over time and how they change over long time periods.

Data collected improves when time series and cross-section data are merged, but that would be impossible if only one of these two dimensions were used (Gujarati, 2014). Secondary information was important in the study since it offered audited information on the selected firms that had a high degree of validity, dependability, and didn't need to be re-evaluated. Furthermore, this secondary data was valuable because of the information it supplied and because it served as a baseline for interpreting changes caused by specific research factors. It also assisted in the identification of pre-existing conditions against which the influence of variables could be assessed. It also included a preliminary evaluation of the situation based on available data, which included an overview of the magnitude and effect of changes in the factors impacting chosen firms, as well as short-term sector risks to which the impacted firm is exposed (Church, 2001).

The corporate governance ratios were derived using corporate governance proxy reports included in each company's financial statements. The ratio computation was prompted by questions on the worksheet, and the responses originated from published financial statements (see appendix). From 2010 to 2019, 290 observations on non-independent directors, female directors on the board, East African Institutions' share ownership, meetings attended by independent directors, and audit committee meetings held during the year were gathered from annual financial reports and computed into ratios. The CG ratios varied from 0 to 1, with C_{it} representing the score given to each corporate CG proxy for firm *i* and C_{it} indicating the presence of corporate governance at time "*t*." (Appasamy, et al., 2013; Brown & Caylor, 2006; Ramona, 2015).

The Fama-French 3-factor Model, developed by Fama and French in 1993, was employed in this investigation. This was an upgraded version of the CAPM that exhibited the ability to predict returns based on three factors: market, size, and value. Fama and French established a three-factor model that disintegrates a security's return into systematic and non-systematic components. Data for idiosyncratic risk was collected from the NSE daily share price trading data and monthly average prices extracted. Over a ten-year period (2010–2019), the idiosyncratic risk value and expected returns were estimated using the daily prices for each security at the NSE. The formula $\acute{R}_{ï} = (\rho_{ţ} / \rho_{ţ-1}) - 1$ was used to determine $\acute{R}_{ï}$ where $\rho_{ţ}$ and $\rho_{ţ-1}$ were closing daily prices on day *ţ* and *ţ-1* was used to determine the monthly expected returns from each security ($\acute{R}_{ï}$). The value of monthly $\acute{R}_{ï}$ was fitted on monthly Fama and French three factor model (1993): $\acute{R}_{ït} = \lambda_{ï} + Б_{ïţ}(\acute{R}_{Mţ} - \acute{R}_{fţ}) + {}_{ş}{}_{ï}ŞṂB_{ïţ} + {}_{Ң}{}_{ï}HṂ\acute{L}_{ïţ} + \varepsilon_{ïţ}$ (See appendix I).

Where:

$\acute{R}_{ïţ}$ = the expected return on a particular stock (security *i*) at time *ţ*.

$\acute{R}_{fţ}$= the risk-free rate of interest at time ţ.

$\lambda_{ï}$= the regression coefficient, the intercept.

$Ŕ_{мţ}$ = the return on the market portfolio of risky assets at time ţ.

ŞṂḂţ = the difference each month, between the average of the returns of the three small stock portfolios (Ş/L, Ş/Ṃ, and Ş/Ⱨ) and the average of the returns of the three big stock portfolios (Ḃ/Ĺ, Ḃ/Ṃ, and Ḃ/Ⱨ) at time ţ.

ⱧṂĹţ = the difference each month, between the average of the returns on the two high ḂÈ/ṂÈ (Ş/Ⱨ and Ḃ/Ⱨ) portfolios and the average of the returns of the two low ḂÈ/ṂÈ (Ş/Ĺ and Ḃ/Ĺ) portfolios at time ţ.

$ε_{iţ}$ = is the error term at time ţ.

$ƃ_ï$, $ş_ï$ and $ⱨ_ï$ are the determined factor sensitivities representing the slopes of the regression.

The √Variance ($ε_{it}$) provided the idiosyncratic risk.

For each month of each year, the monthly regression models were performed, and error terms were generated. To calculate yearly idiosyncratic risk, the annual standard deviations from the monthly error terms were obtained. The variance (or standard deviation) of the residuals of the regression for security share prices was used to identify idiosyncratic risk using a basic regression technique (Wei & Zhang, 2006). According to Ang, Hodrick, and Zang (2006), the idiosyncratic risk of a security is estimated using the standard deviation of the residuals from a monthly regression of daily asset prices. Fama-French three factor values were obtained for data comparisons from Kenneth R. French's website or the CRSP Library (see Appendix I).

To estimate time changing parameters over monthly horizons, Ang et al. (2006) methodology was utilized using daily data trading security prices of 20 days per month. The reason for this was that security exchange traders utilize technical analysis rules rather than fundamental analysis rules (which are concerned with predicted prices of investment activities versus their value). Traders can also examine price fluctuations in securities and estimate idiosyncratic risk over the same time period by using moving averages centered on daily data. Furthermore, the

20-day securities exchange trading system corresponds to a month's trade and allows for simple comparison with research that uses calendar-month-based time perspectives (Ang et al., 2006). The monthly return for each security was fitted on the model, regressed and error terms identified. The yearly idiosyncratic risk was determined as the standard deviation of the 12 months for each firm in each year. On the data collection sheet presented in Appendix 1, information was gathered and documented about independent directors, female board representation, share ownership by East African institutions, independent Director's Meeting Frequency, Audit Committee Meeting Frequency, GDP Growth Rate, Interest Rate, Inflation Rate, Idiosyncratic Risk, and Value of NFLCs at the NSE.

3.6 Diagnostic Tests

Data diagnostics is a method for using data analysis to pinpoint the causes of trends and connections between various variables. Diagnostic tests were consequently required to find any breaches of regression assumptions in the panel regression analysis results because this study depended on secondary data. The key issue was to ensure that the study conclusions were valid and accurate. The idea behind using diagnostic tests was to reject out alternative estimation approaches that could result in poor value-added metrics and remain with estimators that performed successfully. The diagnostic tests were designed to ensure that the data for linear regression were homoscedastic, multivariate normal, and devoid of auto-correlation, multicollinearity, and multiple dependencies.

3.6.1 Unit Root Test

To guarantee that no spurious regression occurred, panel stationarity tests were done (Brooks, 2008). The Levin-Lin-Chu test was used to compare Ho: Panels have unit roots versus HA: Panels do not have unit roots, which contained a temporal trend. All variables for the 29 companies were tested for stationarity using unit root tests (Jung, 2005). The key reason for

adopting unit root tests was that this study included a panel of companies from various industries, and factors had to be assessed for unit root to obtain the best data trend (Moon & Perron, 2010). Unit roots' presence or absence allowed some characteristics of a series' underlying data-generation mechanism to be identified. If the variables in the regression model are not stationary, the basic assumptions for asymptotic analysis can be proven to be untrue. As a result, as normal "t-ratios" will not obey a t-distribution, the study cannot do sufficient hypothesis testing on the regression parameters. Even if there is no relationship between two time-varying variables, a regression of one on the other will yield a high R^2 value. A series, on the other hand, is considered stationary if it does not have unit roots and exhibits mean reversion by oscillating around a set long-term mean. Among other variables, the economic factor variables used in this study have a tendency to be non-stationary, so a unit root non-stationarity test was needed in this study. Finally, in the majority of price series scenarios, non-stationarity is primarily caused by the lack of a stable price level.

3.6.2 Multicollinearity Test

Redundancy in the information present in predictor variables is known as multicollinearity. Moderate redundancy mainly influences how regression coefficients are interpreted. However, if the redundancy is extreme or almost perfect, the model will report very high standard errors (Creswell & Creswell, 2018). Multicollinearity tests were done to ensure that the regression coefficients were stable and capable of delivering meaningful significance tests. If a model exhibited multicollinearity, omitting individual variables from the equation was the only good idea (Sekaran, 2003). The presence of multicollinearity was tested using the variance inflation factor, which determines how much a variable contributed to the regression's standard error and how much its variance may be inflated by interactions with other predictor variables. The tolerance scores for this study were set at above 0.2 or below 10 to ensure that the value inflation factor tests of the variables were not multi-collinear (Creswell & Creswell, 2018).

3.6.3 Heteroscedasticity Test

According to heteroscedasticity, the variances of the residuals (i.e., the dispersion around the predicted mean of zero) are not constant but rather vary depending on the observations. The relative dependability of each observation, which is employed in the regression analysis, is affected by the variances, which creates a problem. In contrast, the OLS demands that the data not be heteroscedastic, whereas the classical linear regression (CLRM) requires that the error term's variance be constant or homoscedastic (Wester et al., 2013).

To examine if the model's error variance was reliant on the values of the independent variables, the heteroscedasticity test using Breusch-Pagan/Cook-Weisberg was utilized. The residuals of a regression model were considered to be inconsistent or otherwise homogenous if the p-value at the 5% level of significance was less than 0.05..

3.6.4 Autocorrelation Test

Autocorrelation is the term used to describe data that shows the degree of consistency between the values of the same variables across time. The presence of autocorrelation in the model's residuals could be a sign that the model is not adequately characterized (Creswell & Creswell, 2018). The Wooldridge test was done to check for autocorrelation in the residuals of the panel regression and ensure that no significant autocorrelations occurred because the data was in the form of a panel rather than a time series. The Wooldridge test null hypothesis is always rejected if the corporate governance variables regression generated p-values more than 0.05 (Jung, 2005).

3.6.5 Normality Test

In order to assess the distributional shape of each individual quantitative data variable, the results of the normality test were examined to make sure they were consistent with a normal

distribution. Normality is a crucial principle in multivariate analysis, according to Hair, Black, Babin, Anderson, and Tatham (2006), and any major variation from it leads to statistically erroneous results. It is critical in a multivariate analysis that the residual, or difference between actual and predicted values, be independent and normally distributed. Among most popular statistical tests for normality are skewness and kurtosis. Because the data set was so vast, sensitive statistical tests for skewness and kurtosis were applied to evaluate whether the data were normal (Tabachnick & Fidell, 2007). In many circumstances, a variable with strong skewness or kurtosis does not stray far enough from normalcy to significantly alter the analysis. The residual distributions were also evaluated using standardized normal probability plots, which are sensitive to non-normality in the middle range of the data.

The Shapiro-Wilk test was also run to examine whether the data were normally distributed using the null hypothesis. According to this test, the null hypothesis is disproved if the p-value is less than the chosen alpha level, providing proof that the tested data are not normally distributed. If a p-value less than 0.05 was obtained, the null hypothesis, then one could claim that the information came from a population with a normally distributed distribution, will be rejected in a data set. If the p-value is greater than the set alpha threshold, the null hypothesis cannot be ruled out.

3.6.6 Hausman Test

The Hausman test, also known as a model misspecification test, is used to help decide between a fixed effects model and a random effects model while undertaking panel data analysis (the examination of data across time). The alternative hypothesis holds that the chosen model has fixed effects, while the null hypothesis holds that the preferred model has random effects. The test essentially determines whether there is a relationship between the unique errors and the model's regressors. There should be no relationship between the two, according to the null

hypothesis, which requires rejection of the null hypothesis in the event that the p-value is low (less than 0.05) (Hausman, 1978).

In order to reject the fixed effect model as the null hypothesis, the Hausman test, like the Chi-square distribution, needs a lower critical value. Wooldridge (2009) states that if the Chi-square is statistically significant and p is greater than 0.05, the fixed effects estimate should be used; otherwise, a random effects model should be used.

3.7 Study Variables Operationalization and Measurement

This study examined the independent, intervening, moderating, and dependent variables. Independent variables included board independence, board diversity, ownership concentration, board activity, and audit committee meetings. The idiosyncratic risk was an intervening variable, whereas economic factors were represented by measurements such as the GDP growth rate, interest rate, and inflation rate. In this study, Tobin's Q was used as a dependent variable to estimate the firm's value.

Table 3.1 Operationalization of Variables

Variable Category.	Variable Name.	Indicators.	Operational definition.	Measurement.	Measurement.	REFERENCE
Independent.	Corporate Governance.	Board independence.	Directors have no relationship with the company or its affiliates.	Percentage of Independent directors / total directors	Ratio.	Appendix A
		Board diversity.	Representation in terms of gender.	Percentage of female directors / total directors	Ratio.	Appendix A
		Ownership concentration.	Percentage of share ownership.	Percentage of shares owned by East African Institutions / Total ownership.		Appendix A
		Board activity.	Independent Directors attend board meetings	Total of directors meetings attended/	Ratio.	Appendix A

			as required.	Total required		
		Audit Committee Meetings	Audit committee meetings held as required	Total of committee meetings attended/ Total required.	Ratio	Appendix A
Moderating.	Economic factors	Gross domestic product growth rate	Change in output for a country's market value of products and services.	Annual GDP growth rate = $\frac{GDP_2 - GDP_1}{GDP_1}$	Ratio.	Appendix B
		The rate of inflation.	The increase in price as a percentage over time.	Monthly inflation rates.	Ratio.	Appendix D
		Rate of Interest.	The inflation-adjusted cost of borrowed funds.	Quarterly, interest rates	Ratio.	Appendix C
Intervening.	Idiosyncratic risk.	Daily securities prices	Changes in daily securities prices	P/P-1	Ratio	Appendix E
Dependent.	Value of non-listed firms.	Tobin's Q.	To compute the equity-to-total debt ratio, divide the market value of equity plus total debt by the book value of total assets.	Modified Tobin's Q = $\frac{\text{Equity Market Value}}{\text{Equity Book Value}}$	Ratio.	Appendix E

Source Author (2022)

The following four indicators were used to operationalize CG during this study. The first required the board to have a diversity policy in terms of educational credentials, specialist knowledge, relevant industry expertise, experiences, citizenship, age, colour, and femininity. The corporate governance rule further states that board members must be appointed without regard to sexual orientation in order to fulfill a specific or limited interest of the area. The second indication was the proportion of shares or holdings in a publicly traded firm controlled by a single person, which was defined as the percentage of shares or stakes in a publicly traded company controlled by a single person or entity. The role of East African Institutions as significant owners was examined during this study. The third indicator was board activity, which involved boards performing executive management tasks like regulating firm operating

procedures, monitoring, and overseeing business operations to confirm successful performance and value development. The presence of a non-executive director was operationalized as board independence, which was assessed by the absence of any relationships or situations that impacted or may affect his or her capacity to fulfill his or her obligations, voice his or her opinions, and vote on decisions objectively. Non-Executive Executives collaborate with the supervisory board, which was tasked with, among other things, administering financial detailing and disclosure measures, monitoring accounting strategies and standards, managing external auditor recruitment, execution, and freedom, and overseeing administrative consistency, ethics, and whistleblower hotlines.

3.8 Data Analysis

The study relied on secondary data, which provided a more comprehensive and high-quality information across all sectors and time periods studied. The data was used to evaluate research hypotheses and gain a better grasp of the study's issue (Vartanian, 2010). The following steps were employed up until model building and data analysis: based on study assumptions, elements that were carefully selected from the population for inferences, or generalizations, about a wider population that was chosen. To identify outliers, non-normality, and primary analysis, as well as interpret the data, Stata 13 software was used to run diagnostic tests such as unit root, autocorrelation, heteroscedasticity, value inflations factor, and normality (Mugenda & Mugenda, 2003). The mean, standard deviation, kurtosis, and standard deviation were employed in this study to explain the variable aspects of the data collected. P-values tests (adjusted R^2 values) were used to test for correlations and magnitude between and among variables based on the null hypothesis.

At a 5% level of significance, multiple stepwise hierarchical linear regressions were used to see whether there were any connections between the variables as indicated in the hypotheses. In

statistical research, the 95 percent confidence interval is most often used as a margin of error in various studies. To qualify the model's relevant variables for retention, re-testing, or removal, progressive testing and evaluating the value of each independent, intervening, and moderating variable was used (Kempf & Osthoff, 2007). Pearson's product moment of correlation analysis was utilized to assess the nature and extent of correlations between corporate governance, idiosyncratic risk, economic factors, and firm value components. The following regression model was used to characterize the relationship between the predictor, intervening, moderating, and response variables:

Firm value = $Þ_0 + Þ_1 CG_{it.} + Þ_2 iR_{j,t} + Þ_3 EF_{i,t} + \varepsilon_{i,t}$.

Where:

$Þ_1$, $Þ_2$ and $Þ_3$ are the regression coefficients in the equation.

CG total score for corporate governance.

iR an aggregate score for idiosyncratic risk,

EF; economic factors total score, and

ε_{it} is a variance term that accounts for the regression model's unanticipated changes.

The regression models to test the hypotheses are as shown in 3.8.1 to 3.8.4 below.

3.8.1 Corporate Governance and Value of non-financial listed firms

The regression analysis model was used to evaluate the relationship between composite CG and the value of non-financial listed firms

Step one; $Y = Þ_0 + Þ_1 CG_{it} + \varepsilon_{it}$……..…… (1)

The value of firms was calculated using Tobin's q, with Y denoting the value, $Þ_0$ indicating a constant, $Þ_1$ representing a regression coefficient, and the composite corporate governance score indicating corporate governance. The following sub-scores were employed in this study: board independence (sub-score A), gender diversity (sub-score B), ownership concentration (sub-

score C), board meetings (sub-score D), and audit committee meetings (sub-score E). The sub-scores were calculated using a total of five leading research questions. The CGS scaled from 0 to 1, with lower scores for poorly managed companies and higher values for well-governed companies. The total corporate governance score was a sum of sub-scores i.e.

$CGS = A+B+C+D+E$……(2)

Later, individual sub-scores were regressed against the dependent variable.

Brown and Caylor (2006) built CG composite indexes in a similar manner, utilizing publicly available financial data from institutional shareholder services. The composite score of the governance index was analyzed in this study, and higher indices were linked to higher company value, higher market return, and superior financial and operational performance. The index was constructed by Brown and Caylor (2006), utilizing 52 items that influenced corporate features and governance provisions such as executive salary and mandatory retirement age. Scores varied from 0 to 52, with "1" equalizing the weighting of each variable. Better corporate governance was indicated by a higher index score, with a G-Index of 51 signifying the best performance. In this study, CG symbolizes the conceptual model's definition of composite corporate governance. A random error component ε_{it}, was introduced into the model to account for unexplained variances, where *I* represented the total number of firms evaluated and *t* indicated the amount of time analyzed. If $Þ_1$ was substantial, there was a connection between CG and the value of NFLCs. As a result, model two below shows how CG practices inside specific firms were analyzed for a relationship to firm value where Y = Firm value, $Þ_1$- $Þ_5$ representing corporate governance practices reviewed in empirical literature.

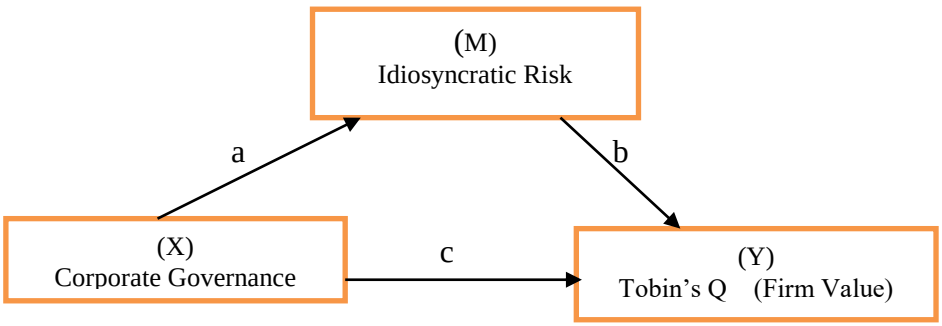
Step two: $Y = Þ_0+Þ_1Bind_{it}+Þ_2Fem_{it}+Þ_3EAIns_{it}+Þ_4Bdme_{it}+Þ_5AudC_{it}+\varepsilon_{it}$…… (3)

3.8.2 Corporate Governance, Idiosyncratic Risk, and Firm Value

A four-step test was used to see if idiosyncratic risk influenced the relationship between CG and firm worth (Baron & Kenny, 1986; Sobel, 1990). Mediating factors are expected to influence the dependent variable and are considered to constitute generating processes. The second objective was to account for a variable (idiosyncratic risk) in the intervening relationship between corporate governance and Tobin's Q. This study was based on the work of Baron and Kenny (1986), who established a four-step procedure for conducting regression analyses and determining the significance of the coefficients at each step. The first methodology for analyzing the relationship between corporate governance and financial value developed as (Y) = (X). The objective was to determine whether corporate governance had a relationship with company value.

$$Y = Þ_0 + Þ_1 Bind_{it} + Þ_2 Fem_{it} + Þ_3 EAIns_{it} + Þ_4 Bdme_{it} + Þ_5 AudC_{it} + e_1 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

The path of testing that was taken was as follows: X. $\xrightarrow{c}$ Y

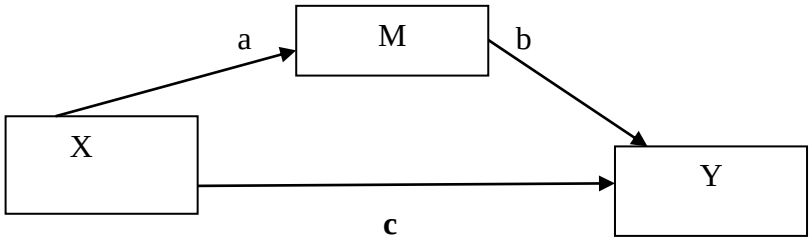


Source: Baron and Kenny (1986)

The regression analysis depicted above was conducted with corporate governance as a predictor of firm value, necessitating testing for path c alone. If no significant correlation between X and Y was established, then move to the next level with a firm theoretical knowledge of their relationship (Baron & Kenny, 1986). The relevance of the idiosyncratic risk values was

assessed using a hierarchical regression analysis once they were included in the model. Step two was to explore for idiosyncratic risk variables, which necessitated more testing.

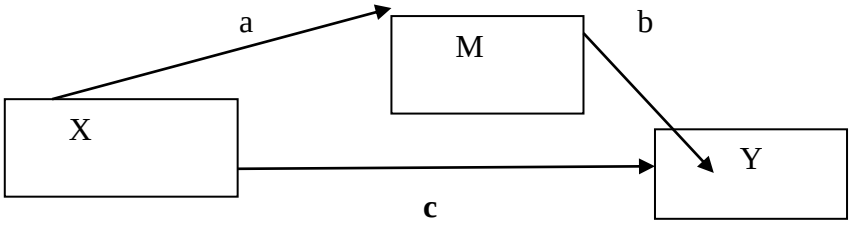
Step two: $\mathbf{i}R_{jt} = Þ_0 + Þ_1 Bind_{it} + Þ_2 Fem_{it} + Þ_3 EAIns_{it} + Þ_4 Bdme_{it} + Þ_5 AudC_{it} + \varepsilon_i$……. (4)



Source: Baron and Kenny (1986)

In step two, a simple regression analysis was done with corporate governance predicting Idiosyncratic Risk hence testing for path X. $\xrightarrow{a}$ M

Step three: $Y_{it} = Þ_0 + Þ_2 IR_{it} + \varepsilon_{it}$ ……..…….…… (5)



Source: Baron and Kenny (1986)

The model conducted a simple regression test with (M) Idiosyncratic risk predicting Tobin's Q (Y) and the purpose was to test the significance of path M . $\xrightarrow{b}$ Y. The objective of this phase was to see if Tobin's Q (Y) was no longer affected by corporate governance (X) (or X affected Y, but to a lesser extent). The inclusion of M in the regression was done to look at the impact of X on Y, which should vanish (or at least be reduced) if there is a mediation effect. To qualify that effect of X on Y goes through M. Steps 2-3 was used to see whether there were any zero-order connections between the variables. Mediation was not conceivable or likely if one or more of these relationships are insignificant; however, this was not always the case (MacKinnon,

Fairchild, & Fritz, 2007). However, if strong relationship emerged from Steps 2–3, one should proceed to Step four.

Step four: $Y_{it} = Þ_0 + Þ_1 Bind_{it} + Þ_2 Fem_{it} + Þ_3 EAIns_{it} + Þ_4 Bdme_{it} + Þ_5 AudC_{it} + Þ_6 ir_{it} + \varepsilon_{it}$ …… (6)

Step four was used to establish if idiosyncratic risk was related to Tobin's Q controlling for exposure to corporate governance. The significance of this stage was to perform a basic regression analysis with both corporate governance and idiosyncratic risk in order to predict Tobin's Q. If the result of M was positive, some arrangement of mediation would be kept constant in the Step four (idiosyncratic risk) (path *b*) after adjusting for X (CG), the effect remains robust. This finding would justify full mediation if it is proved that X (corporate governance) is no longer important when M (idiosyncratic risk) is controlled. If, on the other hand, X (corporate governance) is significant (i.e., both X (corporate governance) and M (idiosyncratic risk) significantly predict Y (Tobin's Q), then partial mediation is supported (MacKinnon, et al., 2007). The model's purpose was to see if idiosyncratic risk is a reliable predictor of firm value while controlling for corporate governance. A variable has an intervening effect when $Þ_2$is significant and $Þ_1$having a lesser effect on total value compared to the results in step one.

3.8.3 Corporate Governance, Economic Factors and Value of Non-financial Firms

A moderating variable influences the quantity or degree to which an independent and a dependent variable are related (Baron & Kenny, 1986). If the moderating variable changes the nature of the relationship between an independent and a dependent variable, there will be an effect. There are three forms of moderation: enhancing, buffering, and antagonistic. Enhancing moderators increase the effect, buffering moderators reduce the effect, and antagonistic moderators reverse the independent variable's influence on the dependent variable's relationship.

Using hierarchical regressions, this study investigated the moderating effect of economic factors on the relationship between corporate governance and firm value. A multiple regression analysis on moderation effects was performed, using predictor variables in the form of CG *(EF) to improve the explanation of regression coefficients. The product CG (EF) was used to investigate the outcome magnitude of the moderating strength as determined by Þ3. This was after controlling for corporate governance and all the economic factors elements.

The study determined the composite EF value as a sum of economic factors indicator ratios as follows: *EF* = GDP +*INTR*+ *INFR*.....(10).

To investigate if there was a significant interaction effect on Y_{it} prediction, using the model below, the researcher investigated the relationships between corporate governance and economic factor variables.

$Y_{it} = Þ_0 + Þ_1 CG_{it} + Þ_2 GDP_{it} + + Þ_3 IntR_{it} + Þ_4 InfR_{it} + Þ_5 CG\ (GDP)_{it} + Þ_6\ CG\ (IntR)_{it} + Þ_7\ CG\ (InfR)_{it} + \varepsilon_{it}$ ..... (11)

Where $Þ_1$ represented the coefficient linking the corporate governance to the result Y_{it}, when $EF_{it} = 0$, $Þ_2$ represented the coefficient linking EF variable to the outcome when $CG_{it} = 0$, $Þ_0$ represented the constant in the equation, and ε_{it} is the error term. The interaction terms, $Þ_5$ $Þ_6$ $Þ_7$, provided an estimate of the moderation effect, such that if they differed from zero statistically, the effect was significantly moderated CG_{it}* EF_{it} (Baron & Kenny, 1986). Marius et al. (2014) have provided evidence that aspects that clarify economic factors components have an effect on corporate performance. Since all three economic factors components occurred at the same time, their combination in a regression model offered a more accurate evaluation of a firm's value. By combining the predictor factors with the CG variable, a multi regression on moderating effects (EF) was therefore utilized to further clarify the regression results. After controlling for corporate governance and the economic factors, the product CG (EF) was utilized to assess

effect size to define the intensity of the moderating impact as measured by $Þ_{5-7}$. The moderating variable was tested under one hypothesis as indicated below.

$Y_{it} = Þ_0 + Þ_1 CG_{it} + Þ_2 GDP_{it} + Þ_3 INF_{it} + Þ_4 INR_{it} + Þ_5 GDP_{it} * CG + Þ_6 INR_{it} * CG + Þ_7 INF_{it} * CG + ε_{it}$ …… (12)

3.8.4 Idiosyncratic Risk, Economic Factors, Corporate Governance and Firm Value.

Multiple regression models were used to examine the interaction between idiosyncratic risk and economic factors in the relationship between CG and value of NFLCs. Both moderating and intervening variables were included in this equation to attain the objective. To test the hypothesis, the following model was used:

$TQ = Þ_0 + Þ_1 CG_{1i,t} + Þ_2 iR_{2i,t} + Þ_3 GDP_{i,t} + Þ_4 IntR_{it,} + Þ_5 InfR_{it,} + ε_{it,}$ …….... (13)

Where TQ=Tobin's Q, $Þ_0$=intercept, $Þ_1$, $Þ_2$, $Þ_3$, = coefficients and $ε_{it}$ = Error term.

CG: Corporate Governance

iR: Idiosyncratic Risk

GDP: Gross domestic product growth rate

IntR: Rates of borrowing

InfR: A significant increase in the price of goods and services

Table 3.2 Hypotheses Statistical Tests Summary

Aim	Proposition	Analytical Methodology	Conclusion
To identify the relation between CG and the value of NFLCs at the Nairobi Securities Exchange.	H_o1: The value of NFLCs at the NSE had no relationship with CG.	Simple linear regression. Goodness of fit check	If at least one of the $\beta_1...\beta_3$is substantial, a relationship exists.
To establish the intervening effect of idiosyncratic risk in the relationship between CG and the value of NFLCs listed at the NSE.	H_o2: Idiosyncratic risk had no intervening effect on the relationship between CG and the value of NFLCs listed at the NSE.	Hierarchical multiple regression. Goodness of fit test	Relationship exists if at least one of the $\beta_1...\beta_3$is significant. at the first three levels of testing. Adjusted R^2 changes significantly.
Examine the effect of the moderating effect of the economic factors on the relationship between CG and the value of NFLCs at the NSE.	H_o 3: The relationship between CG and the value of NFLCs at the NSE was not moderated by the economic factors	Hierarchical multiple regression. Goodness of fit test	Relationship exists if at least one of the $\beta_5...\beta_7$is significant. Adjusted R^2 changes significantly. To accept hypothesis p-values should not exceed 0.05
To establish the combined effect of idiosyncratic risk and the economic factors in the relationship between CG and the value of NFLCs listed at the NSE.	H_o 4: Idiosyncratic risk and the economic factors had no combined effect on the relationship between CG and the value of NFLCs at the NSE.	Hierarchical multiple regression. Goodness of fit test	If at least one of the $Þ_3...Þ_5$ is significant, a relationship exists. T-test and adjusted R^2 significant change.

Source: Author, 2022

CHAPTER FOUR: DESCRIPTIVE DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter discusses the diagnostic test results as well as descriptive data on corporate governance, idiosyncratic risk, economic factors, and the value of non-financial listed firms listed on the NSE. These results provided essential statistical postulations for the regression analysis. Descriptive statistics are a form of statistics that aids in examining and analyzing vast volumes of data. Based on the patterns that emerge from the data, the data is successfully summarized in an understandable manner, measures of central tendency, and dispersion.

The study put various statistical assumptions to the test, including regression assumptions and the statistic used. The tests included unit root, normality, linearity, independence, autocorrelation, and heteroscedasticity. The Shapiro-Wilk test was used to see if there was a deviation from normalcy due to skewness, kurtosis, or both, with results greater than 0.05 indicating normality. After transforming non-normal dependent, mediating and moderating, and independent variables, the best normal distributions were generated.

4.2 The Study Response Rate

Responses were obtained from the financial statements of 29 non-financial listed firms listed on the NSE, representing five sectors, from January 1st, 2010, to December 31st, 2019. The agricultural sector had six businesses, with the seventh being omitted from the sample since it had been delisted in 2015; the car and accessories industry had only one company listed. Out of a total of thirteen companies, eight in the business and services sector were selected. Three of the eliminated firms had been suspended from the securities market, while the other two had been listed after 2010.

	Number of listed firms	Number of firms selected	Suspended and delisted
Agriculture	7	6	Delisted in 2015
Car &accessories	1	1	
Business	13	8	
Construction	5	4	Delisted in 2019
Energy	5	3	Delisted and registeration after 2010
Investment	5	1	Listed after 2010 and delisted
Manufacturing	8	5	Delisting and suspension
Telecom	1	1	
TOTAL	45	29	

According to the above selection criteria, 29 of the 45 non-financial businesses registered on the NSE submitted data for the ten years under investigation, indicating a 64 per cent response rate representing 3,480 data points. This response rate is deemed enough for concluding the study. Response rate is a crucial criterion for determining trustworthiness, according to Baruch and Holtom (2008). On the other hand, Malhotra and Grover (1998) believe that a response rate of less than 20% is very undesirable. De Vaus (2013) further suggests that a reasonable response rate range might be between 30% and 70% in the social sciences. As a result of the preceding data, the study response rate of 64% was deemed satisfactory for this study. It's worth noting, however, that despite significant research on response rates, there is no golden rule or rule of thumb for determining what constitutes an appropriate response rate (Cummings., Savitz., & Konrad. 2001).

4.3 Data Diagnostic Tests

Data pre-estimation testing was carried out to identify issue areas, decrease measurement error, and aid in reforming research models by removing study variables and adding others as needed. It was also intended to check that estimates and findings are compatible with past notions. If they are not, to continue the process until an acceptable model was found that is consistent with prior beliefs. This approach prevented the study's preceding conceptions (hypotheses) from

being rejected. The chosen models were developed using the observed data and then evaluated to determine their suitability (Freyalden-hoven et al., 2019; Kahn-Lang & Lang., 2019; Bilinski & Hatfield, 2018).

4.3.1 Tests for Unit Root

For each variable in a panel, the null hypothesis of Levin et al. (2002)'s panel-based unit root test was evaluated. The null and alternative hypotheses needed to be presented correctly to explain the trend variables in the panel, hence testing for unit roots were critical. The adoption of a suitable null hypothesis assisted in determining whether the observed data showed an increasing or decreasing trend. The type of test regression used was decided by the trend characteristics of the variable data under the alternative hypothesis. Furthermore, the asymptotic distributions of the unit root test statistics were investigated by incorporating a temporal trend in order to increase the test's ability to discern whether the data was trending due to a unit root or a non-stochastic trend. The null hypothesis in stationarity tests, on the other hand, is that the trend must be stationary (Levin, Lin, & Chu, 2002

Levin, Lin, and Chu (2002) guided unit root tests were done for each variable in the research, driven by assumptions such as Ho: Panels can be stationary or have unit roots HA: Panels are stationary and do not have unit roots. The null hypothesis of a unit root was rejected if the p-value was less than 5% based on the unit root test results. The relevance of this test was that the normal assumptions for asymptotic analysis would be erroneous if the variables in the regression model were not stationary. If the hypothesis is erroneous, the "t-ratios" will not follow a t-distribution, prohibiting the study from conducting valid hypothesis tests on the regression parameters. Table 4.1 summarizes the findings.

Table 4.1 Unit-Root Test for Composite Variables (Levin-Lin-Chu)

Variable	Unadjusted t	Adjusted t*	P-Value	Decision	conclusion
Corporate Governance	-19.3120	-11.9783	0.0000	Reject H_o	Stationary
GDP growth rate	-55.7937	-44.4295	0.0000	Reject H_o	Stationary
Interest rate	-63.0128	-53.8732	0.0000	Reject H_o	Stationary
Inflation Rate	-31.1717	-13.0281	0.0000	Reject H_o	Stationary
Idiosyncratic risk	-16.4004	-8.2773	0.0000	Reject H_o	Stationary
Tobin's Q	-28.8116	-24.7206	0.0000	Reject H_o	Stationary

(Source: Author, 2022)

In this study, panel data analysis was used to determine if the variables were stationary or non-stationary. According to Baltagi (2005), if the data is inconsistent, there is a greater chance that the findings will provide deceptive extrapolations, resulting in inaccurate regression models. The unit root test findings in table 4.1 revealed that the panel data variables were stationary. Spurious regression was ruled out because the variables were stationary, meaning that the models used to represent the data were valid.

Table 4.1 shows that corporate governance, idiosyncratic risk, economic factors, and company value as evaluated by Tobin's Q were all integrated at order zero. This also showed that because all of the composite variables were stable in level and so did not require differencing, a cointegration test was not required. In this regard, strong regression models would be fitted at all levels without delays, and any short-term shock to the system would swiftly adjust to the long-term (Hadri, 2000).

4.3.2Autocorrelation Tests

There should be no auto- or serial correlation of error components across data, which is a crucial assumption of the typical linear model. According to Gujarati (2014), autocorrelation is frequent in time-series data for securities price indexes or portfolios of assets. This is because an index, or portfolio, swings up and down over time. The presence of autocorrelation in this setting

impacts the robustness of statistical tests of significance, and hence the inability to make sound conclusions. If a serial correlation exists, the standard errors of the coefficients will be minimized, and the R-squared will be inflated. To ensure that the data did not produce an autocorrelation problem, a Wooldridge test for autocorrelation was performed on all of the independent variables. In linear regression analysis, the elimination of autocorrelation was the most critical criterion for trustworthy study results. Because of autocorrelation, the residuals would be no longer independent and hence have no economic value. In panel data, the Wooldridge test was employed to test for group-wise autocorrelation.

Table 4.2 Residuals Autocorrelation Test

Panel data Wooldridge residuals autocorrelation test.

Ho: Zero autocorrelation of the first order

Statistic	Value
F (1, 28)	17.330
Prob >	0.0003

(Source: Author, 2022)

The result as mentioned above suggests that the residuals in the model had a serial correlation (Prob. = 0.0003). In other words, the results substantially rejected the null hypothesis that the relationship had no serial correlation. The variance-covariance matrix of the estimator (robust) tool was utilized in this investigation to deal with heteroscedasticity or within-panel autocorrelation in the idiosyncratic error component, as indicated by Stata 13 (Simon et al., 2021). However, the autocorrelation problem was corrected using the Prais-Winston command specifying the Cochran-Orcult option in Stata 13

Summary of autocorrelation test

The above table displays the results of the Durbin-Watson test for each individual variable. The test results show that no autocorrelation exists because the d-values of each variable in the test range from $1.5 < d < 2.5$.

Variable	Indicators	Durbin-Watson statistic (d)
Corporate Governance	Independent Boards	1.965213
	Female	1.971192
	East African Institutions	1.964672
	Independent Directors	1.964233
	Audit committee	1.966898
CORPORATE GOVERNANCE		1.963454
Economic Factors	GDP growth rate	1.499346
	Interest Rate	2.487584
	Inflation Rate	1.940701
Idiosyncratic Risk	Standard deviation of error terms	1.979226

4.3.3 Heteroscedasticity test

Because the study used linear regression models in its data analysis, the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity was performed. The data in this study were examined using multivariate variables, and therefore, it was crucial to determine if the variance of the error terms increased or decreased as a function of all explanatory variables. In this test, H_O presumed that all error variances were the same, but H_A hypothesized that they're a multiplicative function of one or more parameters. The presence of heteroscedasticity was tested on all independent variables because it has severe implications for the estimators. In practice, the existence of heteroscedasticity renders confidence intervals and hypothesis tests useless.

Table 4.3 Test for Heteroscedasticity in Composite Variables

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity Ho: Variability is constant
: fitted values of Tobin's q

Statistic	Value
Chi2 (1)	18.29
Prob > chi2	0.0000

(Source: Author, 2022)

According to the data given, the heteroscedasticity test produced a chi2 (1) of 18.29, with a Prob > chi2 of 0.0000 for the Chi-Square test statistic. This value was less than 0.05, and the null hypothesis was rejected, showing that the response variables were heteroscedastic. This suggested that the standard errors of the regression result were unreliable, signaling that the response variable needed to be transformed to remedy the problem. The response variable was converted using square-root, and the post-transformation heteroscedasticity test results are provided in table 4.4.

Table 4.4 Test for Heteroscedasticity After transformation

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity
Ho: Constant variance
Variables: fitted values of Tobin's q

Statistic	Value
Chi2 (1)	3.72
Prob > chi2	0.0545

(Source: Author, 2022)

The null hypothesis of the Breusch-Pagan test was accepted because the test value was greater than 0.05 and the regression result was considered appropriate. This suggested that the transformation of all the variables had successfully eliminated problems with heteroscedasticity and that the variables were homogeneous.

4.3.4: Test for Multicollinearity

The variance inflation factor (VIF) quantifies how strongly one predictor in a model is related to the other predictors. It's used to see if there's collinearity or multicollinearity in a system. Higher values suggest that evaluating the contribution of predictors to a model with precision is difficult to impossible.

This test aimed to establish if the independent variables were related. Because the variables are comparable, a link like this causes the regression equation to have an additive effect, inflating the projected values, resulting in a multicollinearity problem and instability in the variance of the regression estimates. A VIF of 1 indicates that the j^{th} predictor and the remaining predictor variables have no connection, and therefore the variance of b_j is not inflated at all. The conventional rule is that VIFs of 10 and higher indicate significant multicollinearity, which necessitates correction, which this study did not encounter.

Table 4.5 Variance Inflation Factors for Composite Variables

VARIABLE	VIF	1/VIF
Idiosyncratic Risk	1.04	0.958375
Corporate Governance	1.03	0.971193
GDP growth rate	1.71	0.584174
Interest Rate	1.86	0.537430
Inflation Rate	1.31	0.763124
Mean VIF	1.02	

(Source: Author, 2022)

The variance inflation factors, which were calculated to see if the composite explanatory variables were multi-collinear, are shown in Table 4.5. Considering that the VIF was less than 10 in all cases, the test findings showed that there was no multicollinearity among the explanatory factors (Tabachnick, Fidell, & Osterlind, 1996).

4.3.5 Test for Normality

The purpose of the normalcy test was to guarantee that proper conclusions about the data were made. The main goal was to eliminate non-normality in the data to fulfill an essential goal of assuring findings stability. Skewness, kurtosis, descriptive statistics, Shapiro-Wilk statistics, as a test for normality of corporate governance, economic factors, and idiosyncratic risk, were conducted. The primary objective was to verify if the data came from a normally distributed sample.

Descriptive statistics were necessary for graphically expressing large volumes of data and simplifying data interpretation. The following descriptive statistics were used: mean, maximum, minimum, skewness, and kurtosis. A normal distribution's skewness value was deemed zero, hence it was used to determine symmetry or lack thereof. When assessing data for normal distribution, kurtosis was utilized to determine if it was peaked or flat (Cooper & Schindler, 2003).

Table 4.6 Descriptive Statistics for Corporate Governance Economic Factors, Idiosyncratic Risk and Tobin's Q

Variable	Mean	Standard Deviation	Median	Maximum	Minimum	Kurtosis	Skewness
Corporate Governance	2.911	0.4230	2.9	4	2.06	2.499	0.192417
Independent Directors	0.615	0.1382372	0.63	0.9	0.29	2.83225	-0.36941
Female	0.162	0.1522115	0.13	0.7	0	2.82152	0.651701
Institutional	0.504	0.2696617	0.57	0.99	0.01	1.78723	-0.20197
Board Meetings	0.785	0.102411	0.78	1.0	0.5	2.27728	0.170246
Audit Committee Meetings	0.840	0.1102418	0.855	1.0	0.54	2.93839	-0.70540
Economic Factors	21.50	3.757377	20.71	28.83	13.393	2.48661	0.541419
GDP growth Rate	5.78	1.038667	5.8	8.4	1.5	5.5895	1.048211
Interest Rate	8.574	2.265709	8.51	12.76	3.6	3.65850	-0.35767
Inflation rate	7.184	2.767395	6.45	15.1	4.3	4.2064	1.399312
Idiosyncratic Risk	0.016	0.0288971	0.0063	0.2303	0.0036	23.6757	4.108925
Tobin's q	1.682	2.019216	0.785	11.07	0.03	8.23908	2.244714

Source: Author 2022

Table 4.6 shows descriptive data for all individual and composite factors analyzed, such as corporate governance, idiosyncratic risk, economic factors variables (including the GDP growth, rate of interest, and annual inflation), and Tobin's Q.

Significant differences between the variable's maximum and minimum values were found by the descriptive analysis. This clarifies the particularity of the differences and heterogeneities among the analyzed companies. For composite corporate governance, the maximum and minimum scores were 4.0 and 2.06, respectively, with a range of 1.94 between them. A company's average corporate governance score was 2.91, with a median of 2.9; this result implied typical data from which the population was obtained and was not notably peaked. The standard deviation of 0.4229898 indicates that corporate governance was inconsistent among NSE non-financial listed companies.

The data included the percentage of independent directors on each company's board. There were an average of four (antilog of 0.615) independent directors on the boards of NFLCs, with a maximum of 7.9 approximately 8 (antilog of 0.9) and a minimum of 1.94 approximately 2 (antilog of 0.29) among non-financial firms listed. When the mean is taken into account, the data show that several corporations had more independent directors compared to the total number of directors in each NFLC. The standard deviation of 1.3749028, or one independent director (antilog of 0.1382372), on both sides of the mean, demonstrated the minor difference in the number of independent directors across non-financial listed companies. The skewness of -0.36941 indicates that the data was negatively skewed, and the kurtosis of 2.83225 which < 3 suggests that more occurrences were lower than the mean.

The percentage of women's representation on the board had a maximum of 1.9498446 or 2 female directors on the board (antilog of 0.29) and a minimum of 0, which means that some companies did not have any female representation. When the mean is taken into account, the mean of 0.162 suggests that on average each firm had at least one female director (antilog of 0.162) when the total number of directors is considered. The standard deviation of 0.1522115 revealed a slight variation in female representation on boards of non-financial listed firms. The

skewness of 0.651701 means that the data was positively skewed and the kurtosis of 2.82152, which < 3 means that more values are lower than the mean.

The average proportion of East African institutional ownership of shares in firms indicated that 3.191538, or 3 East African institutions (antilog of 0.504), owned shares in the in-financial listed firms. A maximum of 9.772372 or 10 firms (antilog of 0.99) and a minimum of one (antilog of 0.01) East African institutions owned shares in the non-financial listed companies. When the mean is taken into account, the results suggest that when the total number of institutions is evaluated, at least 3.191538 or 3 companies (antilog of 0.504) own shares in the non-financial listed firms. The standard deviation of 0.2696617 demonstrated the minor variation in East African institutional ownership among listed companies. The skewness of -0.01997 means that the data was negatively skewed, and the kurtosis of 1.78723, which is < 3 means that more values are lower than the mean.

On average, independent directors attended board meetings at least 6.095369 or six times (antilog of 0.785) out of the total number of sessions required, with a maximum of 10 meetings (antilog of 1.0) and a minimum of 3.1622777 or three meetings (antilog of 0.5). The standard deviation of 0.102411 indicated a slight variance in the number of meetings attended by independent directors. The skewness of 0.170246 means that the data was positively skewed, and the kurtosis of 2.27728, which is < 3 means that more values are lower than the mean.

A maximum of 10 audit committee meetings (antilog of 1.0) and a minimum of 3.4673685, or three meetings (antilog of 0.54) were held. On average, 6.91831, or 7 audit committee meetings (antilog of 0.840), were held among the listed firms. When the total number of audit committee meetings was reviewed, the results showed that many audit committee sessions were sufficiently attended when the mean was taken into account. The standard deviation of 0.1102418 indicated that there was a slight variance in attendance among the audit committees

of the non-financial firms listed. The skewness of -0.70540 means that the data was negatively skewed, and the kurtosis of 2.93839, which is < 3 means that more values are lower than the mean.

The skewness and kurtosis were employed to test for normal data distribution as a pre-assumption of a multiple regression model. Table 4.6 further shows that the bulk of the corporate governance values were biased. The kurtosis value of 2.4988 represents the data's peak, indicating that most of the values are less than the mean and that the data does not fulfill the equality assumption. The problem of data non-normality was handled by transforming non-normal data to average data using the Stata 13 ladder commands. The skewness constant of 0.1924 was obtained after transformation, and it was ordinarily symmetrical, lying between -0.5 and 0.5. The results were subjected to economic factors during the study period. The maximum and minimum GDP growth rates were 8.4 per cent and 1.5 per cent, respectively. GDP grew at a 5.78 per cent annual rate on average. During the study period, inflation rates ranged from 15.1 per cent to 4.3 per cent, with an average of 7.184 per cent.

According to the trend in interest rates, the highest rate was 12.76 per cent, while the lowest was 3.6 per cent. According to the data, the economic factors descriptive analysis indicated exceedingly turbulent during the study period. The descriptive results for firms' idiosyncratic risk indicators revealed that some had a high risk of 0.2303 and others had a low risk of 0.0036, but the firm idiosyncratic risk average was 0.016. This was a clear indicator that listed firms had varying levels of risk during the study period, with some having very high risks and others having very low risks. The standard deviation of 0.0288071 demonstrated the little diversity in idiosyncratic risk among non-financial firms listed. The kurtosis score for the data's peak was 23.6835, suggesting that the bulk of the values were higher than the mean, indicating that the data did not fit the normal distribution model. The skewness constant of 4.109111 appeared to

be much outside the range of -0.5 to 0.5, and hence was considered highly symmetrical. This suggested that the data was positively skewed but not symmetrical and so almost meets the symmetrical distribution condition (Kothari, 2004). Data normalcy is checked using skewness and kurtosis scores. Despite the fact that these principles are commonly applied in practice, no consensus exists on what constitutes normalcy. Skewness and kurtosis up to an absolute value of 1 imply normality (Ramos et al., 2018; Huck, 2012), but skewness between 2 and +2 and kurtosis between 7 and +7 imply normality (Kim, 2013; West et al., 1996; Hair et al. 2010 & Bryne et al., 2010).

Although the sector average was 1.682, the descriptive results for the value of businesses' indicators revealed Tobin's Q, with some firms having a high firm value of 11.07 and bad performers having a Tobin's Q of 0.03. It was a strong indicator that listed companies fared unevenly over the research period, with some positive producing results and others producing negative results. The standard deviation of 2.019216 revealed significant variance in firm valuation between non-financial listed enterprises. However, all of the study's variables had positive kurtosis, which meant that the distribution of their measures was leptokurtic, whereas the audit committee meeting and interest rate variables had negative skewness, which meant that their distribution was asymmetrical with a long tail to the left. This study tried to examine the normality assumption for four reasons. To begin, use the mean and variance to ensure that the data is compactly represented. Second, statistical approaches were used because there were a number of regressions. Third, it allows for population generalizations, which are commonly expressed as confidence intervals and hypothesis tests. Finally, it enables a better comprehension of a sample's distribution, which leads to a better understanding of data generation (Ross, 2017).

Table 4.7 Shapiro-Wilk W test for Normal Data

Variable	Obs	W	V	Z	Prob >z
Tobin's Q	290	0.71258	59.423	9.572	0.00000
Corporate Governance	290	0.98738	2.609	2.247	0.01231
GDP growth rate	290	0.80012	41.325	8.721	0.00000
Interest Rate	290	0.90634	19.364	6.945	0.00000
Inflation rate	290	0.83225	34.682	8.311	0.00000
Idiosyncratic Risk	290	0.50062	103.244	10.867	0.00000

Source: Author 2022

From the above findings we can reject the hypothesis that all the predictor variables are normally distributed as $P < 0.05$. The Shapiro-Wilk normality test which has the power to detect departure from normality due to either skewness or kurtosis or both as observed from table 4,7 found all the predictor variables with $p < 0.05$ lower than 0.05 confirming non-normality. Based on the 290 observations and the probability of the skew test, the skewness was not asymptotically regularly distributed (p-value of skewness < 0.05). Finally, the null hypothesis cannot be abandoned, suggesting insignificance at the 5% level. Normalizing variables was one approach to ensure that the data distribution was not Gaussian. Data transformation was therefore used to normalize all dependent, intervening, moderating, and independent variables to increase data normality. The variables were transformed using Stata 13's Ladder-of-Powers and Gladder-of-Histograms procedures to obtain the best normal distribution. This technique presented alternative transformations of the identity variable to exhibit the most normally distributed using squares, cubes, inverses of these squares and cubes, inverse and logarithmic transformations. The best transformation with the lowest chi-square numeric values was chosen using Stata commands.

Table 4.8 Corporate Governance, Idiosyncratic Risk, GDP Growth Rate, Interest Rate, Inflation Rate, and Tobin's Q transformation outputs

	Transformation	chi2(2)	Lowest P (chi^2)
Corporate Governance	identity	6.38	0.041
GDP Growth Rate	square root	32.21	0.000
Interest Rate	identity	11.84	0.003
Inflation Rate	1/(Square root)	12.47	0.002
Idiosyncratic Risk	log^2idiosyncratic risk	1.94	0.378
Tobin's Q	Log square	0.16	0.924

(Source: Author, 2022)

The corporate governance identity transformation has the least chi-square of 6.38, as seen in table 4.8. The appropriateness of the corporate governance variable as normal was further validated visually. The skewness of the distribution for Corporate Governance was evaluated using Probability-Probability (P-P) plots. The figure below depicts the Probability-Probability (P-P) Plot for Corporate Governance:

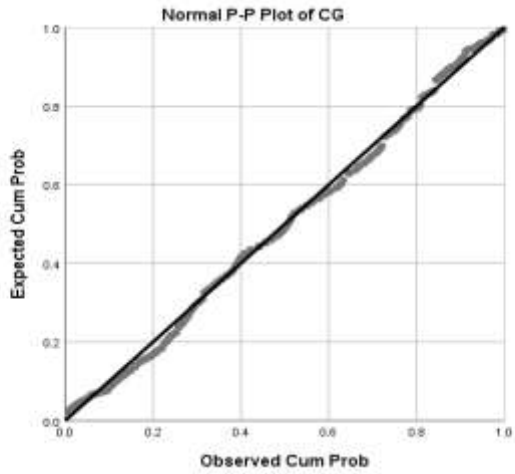


Figure 4.1 Probability Plots Corporate Governance

(Source: Author, 2022)

Figure 4.1 visually depicts the inverse of the ordinary normal cumulative vs ordered data. Because most of the dots lie along a straight line in the graph, the underlying distribution of

Corporate Governance data was normal. On the other hand, deviations from this line correlate to various sorts of non-normality. The normality transformation tests for the moderating variables were carried out. The minimum chi-square values were sought for normality after transformation. After transformation, the square root of GDP growth rate values was 32.21, suggesting that the GDP growth rate variable was now normal. On the other hand, the identity transformation of the cost of borrowing or interest rate has the lowest chi-square of 11.84. With a chi-square of 12.47, the inverse transformation of the square root of the inflation rate is now regarded normal. After transformation, the log square of idiosyncratic risk has the minimum chi-square of 1.94 and was thus considered normal.

Figure 4.2 Probability-Probability (P-P) Plot for Tobin's Q before Transformation. (Source: Author, 2021)

The plot after transformation in figure 4.2 above indicates that the distribution of idiosyncratic risk data was not normal, since more of the dots do not fall along a straight line.

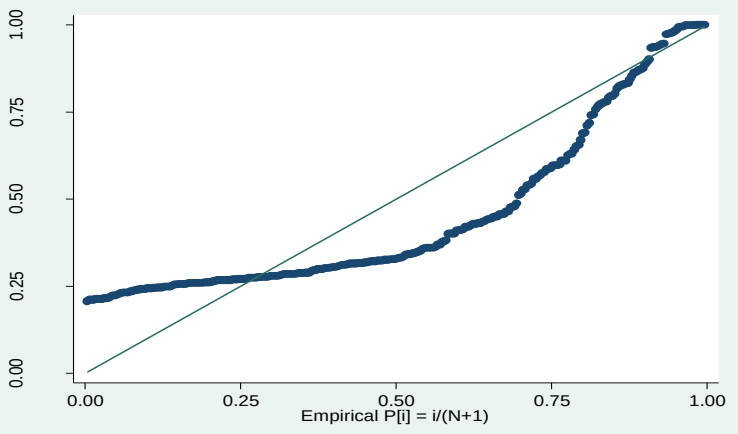


Figure 4.2 Tobin's Q before Transformation

(Source: Author, 2022)

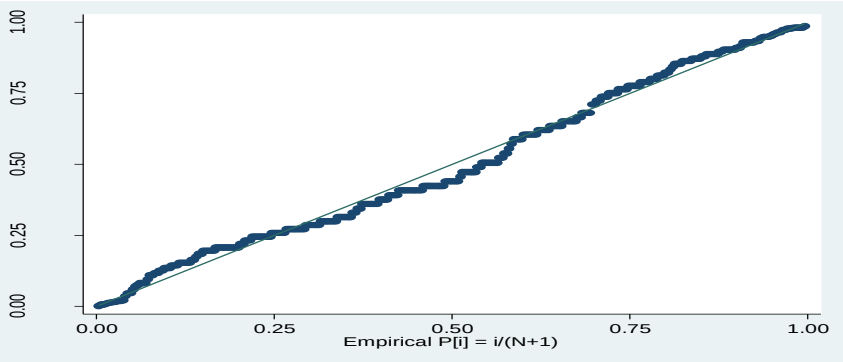


Figure 4.3 P-P Plot for Tobin's Q after Transformation

(Source: Author, 2022)

The plot after transformation in figure 4.3 above indicates that the distribution of Tobin's Q data is now normal, since more of the dots fall along a straight line.

4.3.6 Model Specification

The Hausman test was used to assess and choose between fixed and random effects models. After the test results, the null hypothesis showed that random effects were preferable to fixed effects (Green, 2008).

4.3.7 Hausman Test

Table 4.9 The Hausman Test

	--- Coefficients ----			
	(b)	(B)	(b-B)	Tobin's Q (diag(V_b-V_B))
	fe	re	Difference	S.E.
Corporate Governance	0.0016903	0.0078353	-0.006145	0.0241311
GDP Growth Rate	-0.2934661	-0.2764926	-0.0169735	0.0114427
Interest Rate	0.0051548	0.0054854	-0.0003306	0.0002366
Inflation Rate	0.7226875	0.7212063	0.0014812	0.0030418
Idiosyncratic Risk	0.0042992	0.002596	0.0017033	0.0020403

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
chi2 (5) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B) = 3.28
Prob>chi2 = 0.6566

(Source: Author, 2022)

The Hausman test results, shown in Table 4.9, reveal a high Prob > chi2 = 0.6566 > 0.05, rejecting the null hypothesis that the H_0: random effect model was not acceptable, but the alternate hypothesis H_A: fixed effect model was appropriate in evaluating the study's data. As a result of the results of the Hausman test, the random-effects model was adopted to evaluate the relationships between the variables in this study. To evaluate the effects of variable changes over time and the relationship between regressors and outcome variables, this study used a random-effects (RE) model.

In contrast to the fixed-effects model, the random-effects model suggests that change between entities is random and unrelated to the predictor factors (Bartels, 2008).Time invariant elements like gender were adequately accounted for and absorbed by the imputation process because random effects were included in the model. As a consequence, $_{it} = ÞX_{it} + U_{it} + \varepsilon_{it}$ was chosen as the random-effects model, where U_{it} stands for everything that occurs between entity errors, and ε_{it} stands for anything that occurs within entity errors. Time invariant variables were used because the entity's error term was unrelated to the independent components. As a result, the model was able to make several generalizations that were not possible with the sample size.

4.4 Analysis of Correlation

The objective of relationship analysis was to see how closely two variables were related. Pearson's product-moment correlation was used to examine the relationship between the independent, intervening, moderating, and dependent variables for non-financial listed companies from 2010 to 2019. To evaluate how closely the variables under investigation were related, the correlation coefficient was determined. For this study, the Pearson correlation coefficient, r, was utilized since it measures how closely all the data points are to the line of best fit, or how well the data points fit the new model/line of best fit.

The Pearson correlation coefficient took values from -1 to +1 into account. This meant that if one variable measure increased while the other decreased, it meant there was a negative correlation and vice versa. A value of 0 shows that the two variables had no relationship at all; however, any value greater than 0 indicated that the variables had a positive relationship, and further suggested that as one variable's value increased, so did the value of the other (Hair; Black; Babin & Anderson, 2010; Cooper & Schindler, 2003).

Table 4.10 Pairwise Correlation Output

	Corporate Governance	GDP Growth Rate	Interest Rate	Inflation rate	Idiosyncratic Risk
Corporate Governance	1.0000				
GDP Growth Rate	-0.056	1.0000			
	(0.3417)				
Interest rate	-0.0082	-0.6315*	1.0000		
	(0.8891)	(0.0000)			
Inflation Rate	-0.0028	-0.3978*	0.4685*	1.0000	
	(0.9618)	(0.0000)	(0.0000)		
Idiosyncratic Risk	-0.1508*	-0.0728	0.1385*	0.0607	1.0000
	(0.010)	(0.2161)	(0.0183)	(0.3030)	

*. Correlation was significant at the 0.05 level (2-tailed).
**. Correlation was significant at the 0.01 level (2-tailed).
Listwise N=290

Source: Author 2022

The correlations between the independent variables utilized in this investigation are depicted in the correlation matrix in table 4.10. Pearson (r) correlation statistics were used to determine the degree of relationship between linearly connected variables, with the strength of association being the most important criterion. Furthermore, parametric statistics necessitate the quantification of data on an interval or ratio scale, with Pearson correlation as the recommended method (Sekaran, 2006). The correlation analysis was employed in this study, and the findings were presented at significance levels of 0.01 and 0.05.

The interest rate and inflation rate had the most substantial positive relationship, according to the table, with a correlation of (r = 0.4685, P = 0.000). This meant that if the interest rate was raised, the inflation rate would rise as well. It makes sense because implied interest rates and inflation rates would affect the sales volume and turnover ratio of publicly listed firms. Furthermore, at r = 0.1385, p = 0.0183, there was a positive relationship between interest rate and idiosyncratic risk that was significant at the 95 percent level of significance, and at r = 0.0607, p = 0.3030, there was a positive but insignificant connection between inflation rate and idiosyncratic risk. The fact that high interest and inflation rates had a similar influence on board strategic management activities could explain this relationship. Price stability must be maintained for economic growth to occur. This is accomplished by maintaining a careful watch on inflation and utilizing monetary policy tools like interest rates to keep it slow and steady (World Bank Group, 2018). Likewise, GDP growth, interest rates, inflation rates, and idiosyncratic risk rates are all severely impacted. This means that an improvement in corporate governance will result in a one-unit drop in any of these variables.

4.4.1 Corporate governance and firm value Correlations

The correlation matrix between the study's main indicators is shown in Table 4.12. It demonstrates the relationships between Tobin's q and governance characteristics. The strength of the relationships between corporate governance and firm value was determined by the direction of the correlations.

Table 4.11 Corporate Governance Variables and Firm Value Correlation

Correlations

		TOBIN	Independent Directors	Female Directors	East African Institutions	Board meetings	Audit Committee meetings
TOBIN	Pearson Correlation	1					
	Sig. (1-tailed)						
Independent Directors	Pearson Correlation	.007	1				
	Sig. (1-tailed)	.450					
Female Directors	Pearson Correlation	-.072	.105*	1			
	Sig. (1-tailed)	.110	.037				
East African Institutions	Pearson Correlation	-.004	.014	-.007	1		
	Sig. (1-tailed)	.476	.406	.452			
Board meetings	Pearson Correlation	-.053	.189**	.244**	.074	1	
	Sig. (1-tailed)	.185	.001	.000	.103		
Audit Committee meetings	Pearson Correlation	-.060	-.095	-.019	.180**	.362**	1
	Sig. (1-tailed)	.152	.053	.374	.001	.000	

*. Correlation was significant at the 0.05 level (2-tailed).

**. Correlation was significant at the 0.01 level (2-tailed).

Listwise N=290

Source: Author 2022

Table 4.12 shows a positive statistical relationship was reported between existence of board independence directors (r = 0.007, p < 0.450) and Tobin's Q that was insignificant. This meant that as the number of independent directors increased, the value of listed firms would increase by 0.7%. Negative statistical relationships were exhibited in female representation on the board a weak, significant correlation with Tobin's Q (r = -0.072, p > 0.050); East African institutions that owned shares in listed non-financial companies (r = -0.004, p > 0.05); independent directors' attendance at board meetings which exhibited a minor and negligible negative connection with Tobin's Q (r = - 0.053 p = p > 0.05); and the audit committee met on a regular basis, and reducing the number of audit committee meetings (r = -0.060, p > 0.05). This meant

that any increase in any of these variables, a decrease in the value of listed firms as measured by Tobin's Q, would decrease.

Table 4.12 Correlation between Independent Variables and Firm Value

Correlations

		TOBINS Q	Corporate Governance	GDP growth Rate	Interest rate	Inflation Rate	Idiosyncratic Risk
TOBINS Q	Pearson Correlation	1					
	Sig. (2-tailed)						
Corporate Governance	Pearson Correlation	-0.011	1				
	Sig. (2-tailed)	0.854					
GDP Growth rate	Pearson Correlation	0.560**	-0.056	1			
	Sig. (2-tailed)	0.000	0.341				
Interest rate	Pearson Correlation	-0.616**	-0.008	-0.632**	1		
	Sig. (2-tailed)	0.000	0.889	0.000			
Inflation Rate	Pearson Correlation	-0.959**	-0.003	-0.399**	0.469**	1	
	Sig. (2-tailed)	0.000	0.962	0.000	0.000		
Idiosyncratic Risk	Pearson Correlation	-0.091	-0.151*	-0.073	0.138*	.061	1
	Sig. (2-tailed)	0.121	0.010	0.215	0.018	.303	

**. Correlation was significant at the 0.01 level (2-tailed).
*. Correlation was significant at the 0.05 level (2-tailed).
Listwise N=290 Sources: Author 2022

As revealed in table 4.12 above, a positive statistical relationship was reported between GDP growth rate and value of non-financial listed firms as measure by Tobin's Q ($r = 0.560$, $p > 0.000$) which was significant. This meant that a 1% increase in GDP growth rate resulted in a 1% increase in Tobin's Q. A negative statistical relationship was reported between corporate governance composite ($r = - 0.011$: $p > 0.05$); idiosyncratic risk ($r = -0.091$: $p > 0.05$); interest rate ($r =-0.616$: $p > 0.05$) and inflation rate ($r = - 0.959$: $p > 0.05$). This meant that growth in GDP and a lower interest and inflation rates in the country can contribute to the growth in value of the non-financial listed firms. The statistically insignificant negative correlation between idiosyncratic risk and Tobin's suggests that a decrease in idiosyncratic risk leads to a rise in value of non-financial listed companies.

4.5 Summary of the Chapter

The findings of multiple diagnostic tests on the independent variables, descriptive and inferential analysis on all research variables, and linear regression analysis are presented in this chapter. The Tobin's Q diagnostic test found that the corporate governance, idiosyncratic risk, economic factors, and firm value variables were all stationary and integrated at order zero. The autocorrelation performed by Wooldridge and Durbin–Watson test yielded (Prob. = 0.0003), indicating that the models' error term residuals had a serial correlation. The null hypothesis was rejected since a test for heteroscedasticity yielded a chi2 (1) of 18.29, while the Chi-Square test statistic yielded a Prob > chi2 with a p-value of 0.0000 ($P < 0.05$). Heteroscedasticity and autocorrelation issues were addressed using the Stata 13 variance-covariance matrix of the estimators (robust) tool. The dependent variable (Firm Value), which had a problem with heteroscedasticity, was subjected to a second test. The variables were transformed, and there was no heteroscedasticity as determined by a Chi-Square test result of $P > 0.05$. No variable was excluded from the model because a test for multicollinearity among the composite explanatory variables showed a VIF of less than the threshold value of 10.

The mean score for corporate governance was 2.91, with a median of 2.9, indicating that the data was fairly evenly distributed among the population. With a mean of 21.50401 and a high standard deviation of 3.757377, the economic factors were quite varied. The standard deviation of the intervening variable (idiosyncratic risk) was 0.0288942, with a mean of 0.016231. This variable's kurtosis value was 23.6835, which was higher than the mean, indicating that the data was not normally distributed. Tobin's Q variable had a wide range of values, with a maximum of 11.07 and a minimum of 0.03. The final results could have been unreliable if they hadn't been transformed because the variables had such a broad range of values. This was demonstrated by the standard deviation result of 2.019218. Because the variable's mean was higher than the

median, it was positively skewed. The dataset's Kurtosis was larger than 3, indicating that the tails were heavier than they would be under a normal distribution.

In order to provide inferential statistics for evaluating the link between corporate governance, idiosyncratic risk, the economic factors, and firm value, the best model among fixed and random effects models was chosen. A value of $P < 0.05$ was obtained in both the fixed effects and random effects models, suggesting that none of the model's coefficients were zero. The Hausman test was performed, and Prob > chi2 = 0.6773 > 0.05 was obtained, rejecting the null hypothesis that the groups are not statistically different H_0: random effect model is insufficient to explain the study's dependent variables, while the H_A: fixed effect model is sufficient. As a result, the random-effects model was chosen to investigate the impact of variable change over time on the impact over time. Tobin's Q and corporate governance had an r = -0.011 relationship, which was not statistically significant ($p > 0.05$: $p > 0.01$). There was some indication of an insignificant relationship between CG and idiosyncratic risk ($p > 0.05$) with r = - 0.091 and N of 290.

Tobin's Q and GDP growth rate (economic factors) exhibit a substantial positive relationship of r = 0.560 with N of 290. ($p < 0.05$). Tobin's Q and corporate governance exhibited a statistically insignificant r = - 0.011 relationship ($p > 0.05$: $p > 0.01$). With r = -0.091 and N of 290, a moderate positive relationship between corporate governance and idiosyncratic risk was identified, but it was statistically insignificant ($p > 0.05$). Tobin's Q and GDP growth rate (economic factors) have a substantial positive association of r = 0.560 with N of 290 ($p < 0.05$). The modest negative relationship between Tobin's Q and idiosyncratic risk (r = - 0.091 with N of 290) was statistically insignificant at the level of idiosyncratic risk ($p > 0.01$). To assess if the relationship between the independent variables were multicollinear, a correlational analysis was performed. This study examined the joint relationships between corporate governance,

idiosyncratic risk, the economic factors, and firm value. In Chapter five, the relationships of the variables in the study's regression analysis are fitted to their suitable estimators.

CHAPTER FIVE: HYPOTHESIS TESTING AND DISCUSSION OF THE RESULTS

5.1 Introduction

The results of the statistical tests performed in response to the four null hypotheses that constituted this study, as well as their interpretations, are presented in this chapter. The first null hypothesis stated that no relationship existed between CG and the value of NFLCs listed on the NSE. According to the second hypothesis, idiosyncratic risk had no intervening effect on the relationship between CG and the value of NFLCs listed companies. According to the third hypothesis, external factors such as GDP growth, borrowing rates, and inflation had no moderating effect on the relationship between CG and the value of NFLCs listed at the Nairobi Securities Exchange. According to the final hypothesis, there was no joint effect of idiosyncratic risk and economic factors on the relationship between CG and the value of NFLCs listed on the NSE.

5.2 Corporate Governance and Value of Non-Financial Listed Firms

The study's primary goal was to determine whether there was a relationship between corporate governance and the value of NFLCs listed on the NSE. Tobin's Q was used to calculate the value of the companies, whereas independent directors, board composition, ownership concentration, board activity and audit committee meetings were employed as corporate governance factors. Data from listed firms' annual financial reports publicly available were used to make parameter predictions. The following null hypothesis was tested:

Hypothesis 1: Corporate governance had no relationship with the value of non-financial companies listed on the Nairobi Securities Exchange.

Multiple regression analysis was utilized in the study to investigate the relationship between CG and the value of NFLCs listed on the NSE. Firm value was regressed first on the composite

corporate governance variable, then on each specified corporate governance factor to examine how each element contributed to the relationship. The following equation, which can be found in Section 3.8.1 of Chapter three, was used to make the major prediction.

$FV_{it}=Þ_0 + Þ_1CG_{it} +\varepsilon_{it}$,

Table 5.1 Composite Corporate Governance and Firm Value Results of Random Effect Regression

Variables	Þ	SE	Std Þ	Sig	t	R	R^2	AdjR^2	F
Step 1						0.01	0.0001	-0.0034	0.034
Constant	2.512164 ***	0.1680			14.95				
CG	-0.011	0.0571	0.411	0.855	-0.18				

Dependent Variable: Firm Value: * p<.05; ** p<.01; *** p<.001

(Source: Author, 2022)

In the table above, the linear regression coefficients and p-values are displayed, with significant levels set at 99% and p-values greater than 0.01 classified as insignificant or otherwise. Based on the regression results in Table 5.1, the regression analysis results are provided. According to the model results at the 95 percent significant level (F= 0.034, p = 0.0855 > 0.05), there was no relationship between CG and the value of NFLCs listed at the NSE. The composite corporate governance impacting company value (Adj R^2) was found to explain -0.0034 percent of the variance. Corporate governance does not account for a major percentage of the variability in the value of NFLCs, as implied by the negative sign. The R-squared value was also negative, indicating that in this study, composite corporate governance qualities had no impact on firm value. According to the regression model's findings, there was no significant relationship between corporate governance and Tobin's Q.

When corporate governance was set to zero, the average business value = 2.512164. According to the findings, every 0.011 reductions in composite corporate governance resulted in (as measured by the beta coefficient (= -0.011) equated to a one-unit increase in firm value. A two-tailed test was employed to determine the significance of the coefficients, using the composite

corporate governance (ref 3.8.1) t value (Þ/SE) = -0.18 < 1.96 and a table p-value of 0.428639 being insignificant at p < 0.05. According to the findings, therefore, the null hypothesis one (H_0) was not rejected. Board independence, female involvement on the board, East African institution share ownership in NFLCs, non-executive director meetings, and audit committee meetings were investigated further. The first null hypothesis was further evaluated using the following model: $Y = Þ_0 + Þ1Bindit + Þ_2Femit + Þ_3EAInsit + Þ_4Bdmeit + Þ_5AudC_{it} + \varepsilon_{it}$

H_0: ***At the Nairobi Securities Exchange, there was no relationship between corporate governance and the value of publicly listed non-financial firms.***

Table 5.2 Hierarchical Random Effects: Regression of Individual Corporate Governance Variables' on Value of Non-financial Companies

Variables	Þ	SE	Std Þ	Sig	t	R	R^2	AdjR^2	F
Step 1						0.01	0.0001	-0.0034	0.016
Constant	2.4681	0.1102		0.000	22.39				
Board Ind.	0.0221	0.1748	0.007	0.900	0.13				
Step 2						0.035	0.0012	-0.0058	0.173
Constant	2.4602	0.1112		0.000	22.13				
Board Ind.	0.0114	0.1760	0.004	0.949	0.06				
Female	0.0874	0.1521	0.034	0.566	0.57				
Step 3						0.035	0.0012	-0.0093	0.116
Constant	2.4571	0.1198		0.000	20.51				
Board Ind.	0.0112	0.1764	0.004	0.950	0.06				
Female	0.0876	0.1524	0.034	0.566	0.57				
E.A. Inst.	0.0062	0.0899	0.004	0.945	0.07				
Step 4						0.075	0.0057	-0.0083	0.407
Constant	2.6469	0.2062		0.000	12.84				
Board Ind.	0.0448	0.1788	0.015	0.802	0.25				
Female	0.1341	0.1578	0.052	0.396	0.85				
E.A. Inst.	0.0145	0.090	0.010	0.873	0.16				
Board Meet	-0.283	0.2502	-0.071	0.259	-1.13				
Variables	**Þ**	**SE**	**Std Þ**	**Sig**	**t**	**R**	**R^2**	**AdjR^2**	**F**
Step 5						0.085	0.0072	-0.0102	0.414
Constant	2.7379	0.2472		0.000	11.08				
Board Ind.	0.0233	0.1818	0.008	0.898	0.13				
Female	0.1251	0.1585	0.049	0.431	0.79				
E.A. Inst.	0.0246	0.0915	0.016	0.788	0.27				
Board Meet	-0.212	0.2720	-0.053	0.437	-0.78				
Audit	-0.163	0.2442	-0.044	0.504	-0.67				

Dependent Variable: Firm Value (Source: Author, 2022)

Table 5.2 displays the results of a five-step hierarchical multiple regression with firm value as the dependent variable. Board independence was stage one, female involvement on the board was stage two, In stage three, East African institutions' shared ownership was regressed, in stage four, the frequency of non-executive directors' board meetings was regressed; and in stage five, the frequency of audit committee meetings was examined. Board independence had no effect on company value (F= 0.016, p >.05) and was not significant at the 95 percent significance level (t = 0.13, p =0.900). According to the second prediction model, female board member involvement had no effect on the value of non-financial listed firms on the NSE (F= 0.173, p>.05). When independent directors and women's roles were included in the model, the results provided t= 0.06 and 0.57, respectively, with p-values of 0.949 and 0.566, suggesting that the results were not significant.

The introduction of East African institutions ownership had no effect on the third stage (F= 0.116, p.> 01, R^2= 0.0012, AdjR^2= -0.0093). Board independence, female participation on the board, and East African institutions' ownership of the firms produced t-values of 0.06, 0.57, and 0.07 with p = 0.950, 0.566, and 0.945, respectively, were not significant. The addition in the fourth stage of non-executive board meetings had no effect (F=0.407, p > .01, R^2=0.0057, AdjR^2 = -0.0083). Board independence, female involvement on the board, East African institutions in firm ownership, and board meetings attended by non-executive Directors all had t-values of 0.25, 0.85, 0.16, and -1.13 respectively. The corresponding p-values were 0.802, 0.396, 0.873, and 0.259, which were not significant.

Finally, when audit committee meetings were included in the final stage, there was no significant effect (F = 0.414, p >.01, R^2= 0.0072, AdjR^2 = - 0.0102), Board independence, female representation on the board, East African institutions in firm ownership, board meetings attended by non-executive directors, and Audit Committee meetings provided t-values of 0.13,

0.79, 0.27, -0.78, and -0.67, respectively; while the p values were 0.898, 0.431, 0.788, 0.437, and 0.504, respectively, and were all not significant at the 95% level. According to the final model's findings, CG indicators did not significantly predict the value of non-financial companies on the NSE. The audit committee and non-executive directors on board meetings both had negative slopes (Beta coefficients) of -0.212 and -0.163 in phases four and five, respectively. This means that for every additional day of non-executive directors on board meetings and audit committee meetings, the firm's value plummeted by 0.212 and 0.163 shillings, respectively. With Þ scores of 0.0233, 0.1252, and 0.0246, respectively, this means that with each increase in board independence, female board participation, and ownership by East African institutions, the value of the NFLCs would decrease by 0.0233, 0.1252, or 0.0246 units.

All corporate governance metrics had insignificant p values (p > 05) and an R-value of 0.85 when it comes to the value of non-financial companies listed on the NSE. According to the R^2 of 0.0072, corporate governance only accounted for 0.72 percent of the variance in non-financial company value, whereas CG had no meaningful relationship with the value of NFLCs listed on the NSE. As real-value predictions, a group of the five corporate governance proxies underperformed. Finally, the NSE confirmed that there was no substantial relationship between corporate governance and non-financial company value.

5.5.2 Corporate Governance, Idiosyncratic Risk, and Firm Value

This study examined the impact of idiosyncratic risk on the relationship between CG and the value of NFLCs listed on the NSE. The goal of this study was to evaluate if idiosyncratic risk intervened in the relationship between CG and the value of NFLCs listed on the NSE. To investigate this link and see if it's intervened by idiosyncratic risk, four steps were needed. In conventional mediation analysis, the model to fit the series of linear regression presented by

Baron and Kenny (1986) was utilized. By directly connecting the independent and dependent variables and then determining the effects on the linkage, this four-step mediated connection test investigated whether the addition of a mediating variable in a regression model had any effect. The null hypothesis that guided the research was as follows:

Hypothesis2: Idiosyncratic risk has no intervening effect on the relationship between corporate governance and company value for non-financial companies listed on the NSE.

The four equations below demonstrate how intervening relationships were established prior to a hierarchical regression of CG on company value.

$FV = \beta_0 + \beta_1 CG + e_{1t}$……..…….... (1)

To explain the link between the independent and intervening factors, the second stage involved regressing idiosyncratic risk on corporate governance.

$IR = \beta_0 + \beta_1 CG + e_{it2}$ ……..…….(2)

By regressing Tobin's Q on idiosyncratic risk, the third stage required confirming the connection between the intervening and dependent variables.

$FV = \beta_0 + \beta_3 IR + e_{1t}$…….....…….. (3)

The fourth stage entailed developing a model that contained both intervening and independent variables. This needed figuring out how corporate governance, idiosyncratic risk, and value were related. In this context, this necessitated regressing firm value on corporate governance and idiosyncratic risk.

$FV = \beta_0 + \beta_1 CG + \beta_3 IR + e_{it4}$ ……(4)

The results of the tests are shown in table 5.3 below.

Table 5.3 The Intervening Effect of Idiosyncratic Risk on the Relationship Between Corporate Governance and Value of Non-Financial Listed Firms.

Variables	B	SE	Std Þ	Sig	t	R	R^2	AdjR^2	F
Step 1[a]						0.11	0.0001	-0.003	0.034
Constant	2.5122	0.16803		0.000	14.95				
CG	-0.011	0.05713	0.4108	0.855	-0.18				
Variables	**B**	**SE**	**Std Þ**	**Sig**	**t**	**R**	**R^2**	**AdjR^2**	**F**
Step 2[b]						0.151	0.0227	0.0193	6.669
Constant	6.7016	0.78246		0.000	8.56				
CG	-0.6886	0.26605	1.9131	0.010	-2.59				

Variables	B	SE	Std Þ	Sig	t	R	R^2	AdjR^2	F
Step 3[c]									
Constant	2.5726	0.0124		0.000	40.67	0.091	0.0083	0.0049	2.422
IR	-0.0194	0.06326	0.4092	0.121	-1.55				
Variables	**B**	**SE**	**Std Þ**	**Sig**	**t**	**R**	**R^2**	**AdjR^2**	**F**
Step 4[d]									
Constant	2.6474	0.1877		0.000	14.10	0.094	0.0089	0.0020	1.297
CG	-0.0243	0.0576	-0.025	0.673	-0.42				
IR	-0.0201	0.0126	-0.095	0.111	-1.60				

[a]Dependent variable: Firm value
[b]Dependent Variable: Idiosyncratic Risk.
[c]Dependent variable: Firm value.
[d]Dependent variable: Firm value

(Source: Author, 2022)

The intervening effect of idiosyncratic risk in the relationship between CG and the value of NFLCs at the NSE was explored using hierarchical multiple linear regressions, and the results are provided in table 5.3 above. The first method entailed a regression of CG on the value of NFLCs without accounting for idiosyncratic risk. The model demonstrated a statistically insignificant relationship between CG and the value of NFLCs, as shown in Table 5.3. The adjusted R2 of 0.0001, F = 0.034, and $p > 0.05$ in step 1 of the multiple regression model revealed that CG explained 0.01 percent of the variation in firm value.

A slope test was used to assess the strength of the relationships between Tobin's Q (the dependent variable) and corporate governance (the independent variable). The coefficient (Þ) value of corporate governance in the regression results was -0.001, very close to zero, with a t-value t= -0.18 lower than the t-critical statistic's value at the 0.05 significance level, i.e. 1.96 for 290 observations. However, the association was small (p = 0.855 with p > 05), indicating that, while corporate governance was important, it had only a minimal effect on the value of a company.

In the second step, regression analysis was used to evaluate the relationship between idiosyncratic risk (mediating variable) and corporate governance (independent variable). The dependent variable (firm value) was not included in this procedure. The regression model was statistically significant (p-value < 05), as shown in Table 5.3. The multiple regression model yielded adjusted R^2 = 0.0193, F = 6.669, and p < 05.This means that corporate governance accounted for 1.93 percent of idiosyncratic risk variation. The t-value of -2.59 was less than the t-critical statistic value of 1.96 for 290 observations at the 0.05 significance level, and it was significant p = 0.010 with p < 05, indicating that the relationship between corporate governance and idiosyncratic risk was significant. According to slope tests, the regression coefficient (Þ) value of CG was - 0.6885872, with a significance level (p-value) of 0.010.

This resulted in corporate governance being a significant predictor parameter (p < 05), indicating a relationship between CG and idiosyncratic risk. This suggests that idiosyncratic risk will drop by 0.6885872 for every increase in corporate governance proxies. Step two confirmed the mediating connection hypothesis, which stated that for every unit of negative change in corporate governance, a 6.669 unit shift in idiosyncratic risk occurs. Prediction model can therefore be stated as: I**R** = 6.701631 – 0.6885872CG +$e_{it.}$ A regression analysis was used in

the third phase of the mediation process to assess the connection between idiosyncratic risk (mediating variable) and company value (dependent variable). The independent variable had to be left out of this regression method (corporate governance). Table 5.3 shows that the model produced a statistically insignificant outcome. The model provided an adjusted R^2 = 0.0049, F = 2.422, and p >.05 meaning that idiosyncratic risk explained 0.49 percent of the variation in firm value in the multiple regression model. With a significance level of 0.05, the t-value of -2.59 was less than the t-critical statistic's value of -1.55 i.e. 1.96 for 290 observations was the result, but insignificant p = 0.121 with p > 05, indicating that even though idiosyncratic risk was an important variable, it had an insignificant relationship with firm value. The regression coefficient (Þ) value of idiosyncratic risk was -0.0194, according to slope tests, with a significance level of p >.05. This demonstrated the insignificance of the relationship between idiosyncratic risk and the value of the NFLCs.

The fourth and last component of the mediation process was to establish a relationship between the value of NFLCs, idiosyncratic risk, and CG. The model was shown to be statistically insignificant (p-value > 05) as indicated in Table 5.3. Further analysis of the regression mode's goodness of fit revealed an adjusted R^2 of 0.0020, F of 1.27, and p>.05, implying that corporate governance and idiosyncratic risk explained 0.20 percent of the variation in company value. According to slope tests, the value of CG's regression coefficient (Þ) was -0.0243, with an insignificance p-value of p > 05. The (Þ) of -0.0201 was the idiosyncratic risk regression coefficient with a significance level of p >.05. This suggested that neither corporate governance nor idiosyncratic risk was good predictors of a firm's value (p>05). Even when Corporate Governance is controlled (p > 0.05), idiosyncratic risk insignificantly predicts firm value, indicating that the model is not a good predictor. According to the findings of this study, idiosyncratic risk had no intervening effect on the relationship between CG and the value of NFLCs on the NSE.

Stages 1 through 3 were used to determine whether the variables exhibited zero-order correlations. Mediation was not conceivable or plausible if one or more of these relationships were not significant (MacKinnon, Fairchild, & Fritz, 2007). If regression analysis shows statistically significant correlations in the first three phases of testing, a variable can act as a mediator in the causal chain (Baron & Kenny, 1986). After the first three testing steps, only the second step was significant; therefore, not all of them stood out. According to the results of this regression test, idiosyncratic risk had no statistically significant intervening effect in the relationship between CG and non-financial listed company value, indicating that hypothesis two was not rejected.

5.5.3 Corporate Governance, Economic Factors and Value of Non-Financial Listed Firms

The third goal was to investigate if economic factors moderate the relationship between CG and the value of NFLCs on the NSE. Economic factors had no moderating effect on the relationship between CG and the value of NFLCs listed on the NSE, according to the hypothesis of this study. The estimating technique developed by Baron and Kenny (1986) was utilized to test the results of the moderating effect.

Tobin's Q was used to quantify the moderating effect of variables such as GDP growth, interest rate, and inflation rate on the relationship between CG and the value of NFLCs listed firms on the NSE. As moderator variables, single-component indicators (CG* GDP growth rate, CG* interest rate, and CG* inflation rate) were generated. Multiplying variables CG and GDP growth rates, as well as the CG* Interest rate and CG* Inflation rate, to generate extra variables, could cause a multicollinearity problem. To eliminate the problem of multicollinearity, each of the two variables was transformed into standardized (Z) scores with a standard deviation of one and a mean of zero. To reduce the effects of multicollinearity, the interaction variables were

generated by multiplying the two standardized variables (CG with GDP growth rate, CG with Interest rate, and CG with Inflation rate). The following null hypothesis was established to test the moderating effects of GDP growth, borrowing costs, and annual inflation on the relationship between CG and the value of the NFLCs listed on NSE:

Hypothesis 3: The relationship between corporate governance and the value of non-financial listed companies on the NSE was not moderated by the economic factors.

The relationship was investigated using the following model:

$FVit = Þ_0 + Þ_1 CG_{it} + Þ_2 GDP_{it} + Þ_3 INF_{it} + Þ_4 INR_{it} + Þ_5 GDP_{it} * CG + Þ_6 INF_{it} * CG + Þ_7 INR_{it} * CG + ε_{it}$ ……(3b)

Table 5.4 Random Effect Regression Results of Corporate Governance GDP, INF, INR and Interaction terms (CG*GDP, CG* INF and CG * INR)

Variables	B	SE	Std β	Sig	t	R	R^2	AdjR^2	F
Model1						0.983	0.9662	0.9657	2037.6
Constant	3.9045	0.09062		0.000	43.09				
CG	-0.006	0.01059	-0.006	0.557	-0.59				
GDP	0.2711	0.02755	0.140	0.000	9.84				
INT	-0.006	0.00062	-0.134	0.000	-9.06				
INF	-0.724	0.01074	-0.840	0.000	-67.4				

Variables	B	SE	Std β	Sig	t	R	R^2	AdjR^2	F
Model **2**						0.986	0.9722	0.9715	1408.3
Constant	2.112	0.010		0000	3.75				
CG	-.001	0.536	-0.001	0.957	-0.05				
GDP	2.229	0.001	1.153	0000	4.16				
INT	-0.004	0.110	-0.100	0.001	-3.38				
INF	-1.167	0.007	-1.355	0.000	-10.7				
CG*GDP	0.036	0002	0.873	0.000	4.85				
CG*INT	0005	0041	0.106	0.026	2.24				
CG*INF	0.164	0.010	1.939	0.000	3.99				

a. Model1 Predictors: (Constant), CG, GDP, INT, INF
*b. Model2 Predictors: (Constant), CG, GDP, INT, INF, CG*GDP CG*INT CG*INF*
c. Dependent Variable: Firm Value

(Source: Author, 2022)

The findings of the hierarchical models were used in the investigation of the moderating effects of GDP growth, borrowing costs, and annual inflation on the relationship between composite CG and company value, as shown in Table 5.4. In Model 1, the relationship between CG, inflation rate, and value of NFLCs was statistically significant (F= 2037.6 AdjR^2 = 0.9715). With a moderating effect, the coefficient of correlation (R) for corporate governance was 0.986, showing a 98.6 percent significant relationship between the parameters GDP growth, cost of borrowing, annual inflation, and value of NFLCs value. The 0.9662 coefficient of determination, R2, for the rate of change in firm value as evaluated by Tobin's Q revealed that economic factors such as GDP growth and interest rates moderated the association between corporate governance and non-finance company value. This finding indicated a considerable effect; nevertheless, more research into the other 0.0338 economic factors influences that could have influenced company value is required. Using the generated regression coefficient parameter (Þ), the impact of CG on firm value, including GDP growth, interest rate, and annual inflation, was explored. Interest rates, inflation rates, and corporate governance are all inversely connected to company value, as seen in Table 5.4. The reported coefficients for inflation, interest rate, and composite corporate governance of -0.006, -0.006, and -0.724, respectively, imply that when these variables decrease by one unit, firm value increases by 0.006, 0.006, and 0.724, respectively.

The correlation coefficient R = 0.986 in model 2 demonstrated a higher relationship between CG, inflation, interest rates, and GDP growth rates, among other factors. CG*GDP growth rate, CG*IntR, and CG*InfR were the rate and interaction terms, with firm value at 98.6 percent. The R^2, increased by 0.6 percent to 0.9722, this suggested that the effect of moderating variables on corporate governance could account for 97.22% of the change in value of NFLCs. This was a substantial effect that necessitated additional investigation since it highlighted the possibility of other elements that could affect company value. The Adjusted R^2 now stood at 0.9715, with a

peak F of 1408. 3. However, the interaction variables were all statistically meaningful ($p < 0.05$), rejecting hypothesis 1 and indicating that the GDP growth rate, interest rate, and rate of inflation all had a positive impact on the relationship between corporate governance and the value of non-financial listed companies on the NSE. The regression prediction model after normalizing for the interaction term appeared as below:

$FV_{it} = 2{,}112 – 0.001CG_{it} + 2{,}229GDP_{it} – 0.004_3INF_{it} – 1.167INTR_{it} + 0.036GDP_{it} *CG+ 0.05INF_{it} *CG+ 0.64INFR_{it} *CG+ \varepsilon_{it}$

5.4 Corporate Governance, Idiosyncratic risk, Economic Factors and Value of Non-Listed Firms

The fourth objective looked into the joint effect of idiosyncratic risk and economic factors on the relationship between CG and the value of NFLCs listed on the NSE. According to the hypothesis, the combined effect of idiosyncratic risk and economic factors on the relationship between CG and the value of NFLCs at the NSE was not significant. The null hypothesis was set as follows:

Hypothesis 4: Idiosyncratic risk and the economic factors had no joint effect on the relationship between corporate governance and the value of non-financial firms listed at the NSE.

Using hierarchical multiple regressions, the joint effect of idiosyncratic risk and the economic factors on the relationship between corporate governance and value of listed non-financial listed companies was explored, obtaining the results provided below. The prediction equations, which were covered in Chapter 3, are as follows:

$y_{it} = Þ_0 + Þ_1CG_{it.} + Þ_2 IR_{i,t} + Þ_3 GDP_{i,t} + Þ_4 IntR_{i,t} + Þ_5 InfR_{i,t} + \varepsilon_{i,t}$

Table 5.5 The Impact of Corporate Governance, GDP Growth Rate, Interest Rate, Inflation Rate, and Idiosyncratic Risk on Non-Financial Listed Companies' Value

Variables	B	SE	Std Þ	Sig	t	R	R^2	AdjR^2	F
Model1						0.983	0.966	0.9658	1632.5
Constant	3.92059	0.0916		0.0000	42.81				
CG	-0.00811	0.0107	-0.008	0.449	-0.76				
GDP	0.27134	0.0275	0.140	0.000	9.86				
IntR	-0.00555	0.0006	-0.132	0.000	-8.89				
InfR	-0.7239	0.0107	-0.840	0.000	-67.45				
Idio	-0.00276	0.0024	-0.013	0.242	-1.17				

Model Predictors: Constant, GDP growth rate, Corporate Governance Rate of Interest Idiosyncratic risk and inflation rate (Source: Author, 2022)

Table 5.5 shows how the joint effects of idiosyncratic risk and economic factors interact in the relationship between CG and the value of NFLCs on the NSE. Corporate governance, idiosyncratic risk, and economic factor indicator variables all had a significant relationship with the value of NFLCs according to the data (F= 1632.5, p.< .05, AdjR^2 = 0.9658). As a result, these findings imply that the predictor factors explained the value of non-listed firms in 96.58 percent of the cases.

The interest rate and inflation rate regression coefficients (Þ) were both negative and significant (p.05). Table 5.6 shows the interest rate (Þ= -0.00555, p < 05) and inflation rate (Þ= -0.7239, p < 05) as well as their associated p values. The model coefficients for idiosyncratic risk and corporate governance (Þ) were negative and insignificant (Þ= -0.00276, = -0.00811, p > 05). The GDP growth rate regression coefficients (Þ) were positive and significant (p < 05). The relationship between CG and the value of NFLCs was not intervened by idiosyncratic risk (p >.05), according to this study. The value of non-financial listed companies had a significant relationship with economic factors indicator components (p < .05). According to the statistical significance of the overall model, corporate governance, idiosyncratic risk, and economic factors proxies all had a significant relationship with the value of non-financial listed firms on the Nairobi Securities Exchange (p < 0.05). As an outcome of this study finding, all economic

factors null hypotheses were rejected. Finally, the t-statistic in the table shows that the values of corporate governance, and idiosyncratic risk were -0.76, and -1.17, respectively, all of which were lower than the critical value of the t-statistic at 0.05 significant levels, i.e. 1.96 for 290 observations and hence we failed to reject the null hypothesis. The t-value for GDP growth rate Interest rate and inflation rate were 9.86 -8.89, -67.45 respectively, and at the 0.05 significance level, which was higher than the significant t-statistic value of 1.96 and -1.96 for 290 observations but still substantial at $p < 0.05$ as a result, we rejected the null hypothesis.

Based on the outcomes of statistical analyses in this study, the fourth null hypothesis was rejected, implying that interest rate, inflation rate, idiosyncratic risk, and GDP growth rate all had a joint effect on the relationship between CG and the value of NFLCs on the NSE. In addition, the entire model was statistically significant ($p < 0.05$), as shown in Table 5.7, revealing that corporate governance, GDP growth rate, interest rate, inflation rate, and idiosyncratic risk all had an impact on the value of NFLCs listed on the NSE. Finally, the fourth null hypothesis was rejected, providing the prediction equation shown below:

$$FV = 3.92059 - 0.00811CG_{it.} + 0.27134GDP_{it} - 0.00555IntR_{it} - 0.7239INFR - 0.00276R + \varepsilon_{it}.$$

5.6 Hypotheses Testing and Discussion of the Findings

The main objective of the study was to look into the relationships between corporate governance, idiosyncratic risk, economic factors, and the value of non-financial companies listed on Kenya's Nairobi Securities Exchange. This section includes a summary of the findings for each of the hypotheses investigated.

5.6.1 Corporate Governance and Firm Value

The first objective of this study was to examine the relationships between CG and the value of NFLCs listed on the Nairobi Securities Exchange. There was no significant relationship

between CG and the value of NFLCs listed on the NSE, according to this study (F= 0.03, p = 0.0855.05, and R =0.11). According to the adjusted R^2 = -0.0034, corporate governance does not explain a significant portion of the variability in the value of publicly traded non-financial companies. Based on the prediction model results, the study failed to reject the null hypothesis H_o, demonstrating that there was no significant relationship between corporate governance and the values of NFLCs listed on the NSE. This study's findings, which revealed no significant association between CG and the value of listed firms, contradict some of the following recent studies.

The paucity of a positive relationship between CG and the value of publicly traded NFLCs may indicate that independent directors in underdeveloped countries such as Kenya are unable to uphold statutory CG process standards. According to Wang and Oliver (2009), the corporation may have had the required number of independent directors on its board, but that compliance may have been in jeopardy due to various strategies taken to weaken its influence. In addition to having little time to devote to their board duties, independent board members frequently lack the necessary business acumen to participate effectively in committee meetings.

The absence of female presence on boards may be the cause of the negative correlation between that representation and the value of non-financial listed companies because most of those firms did not have any female representation; hence their impact was not noticeable. The exploitation viewpoint, which contends that institutional owners do not actively manage their investments but instead use them to enrich their own portfolios, could explain why there is still a negative relationship between institutional ownership and firm value (Satt, Nechbaoui, Hassan, & Halim, 2021). Another reason audit committee meetings may have had a negative effect on the value of publicly traded NFLCs is that executive directors may have failed to effectively carry out their

oversight responsibilities or may have chosen individuals with incorrect backgrounds or lacking skills to question their authority while on this committee.

This result was consistent with past research, such as the second Malaysian study by Fuzi et al. (2016), which revealed that independent directors needed frequent oversight and had a disproportionate impact on firm profitability. In Malaysia, Johl, Kaur, and Cooper (2015) revealed that the managerial board activities of independent directors had no effect on the company's performance. According to Arora's (2012) study, outside directors had a weak relationship with financial performance. However, the findings of the current study contradicted previous research, such as that conducted in South Africa by Muniandy and Hillier (2015), who identified a favorable relationship between independent directorship and company performance.

According to El- Habashy's (2019) study, there is no significant relationship between managerial ownership, ownership concentration, and either market performance metrics or accounting performance indicators. In addition, Shrivastav and Kalsie (2016) noted differences in the relationships between management ownership, director ownership, institutional ownership, promoter ownership, and foreign ownership, as well as differences in the performance of companies, which could be either favorable or insignificant. Leung, Richardson, and Jaggi (2014), on the other hand, found no evidence of a significant relationship between the profitability of family firms and the independence of corporate boards or board committees. Karaca and Ekşi investigated the links between ownership structure and business success in their 2012 study. However, no relationship was found between ownership structure and Tobin's Q.

Hykaj (2016) conducted a study on institutional ownership and reported that there was a relationship between institutional ownership and fund performance. Abubakar, Umaru, and Daikwo (2019) investigated the relationship between institutional ownership and the financial

performance of listed Nigerian companies and discovered a positive relationship between institutional ownership and financial performance. According to the findings of Nazari, Basati, and Jamshidinavi (2017), institutional ownership had a significant impact on the relationship between financial performance and risk-taking among listed companies. However, Khan, Khidmat, Al Hares, Muhammad, and Saleem (2020) found a negative relationship between agency performance and state ownership. These findings indicated that the relationship between agency performance and corporate governance quality, ownership concentration, and non-state ownership was positively moderated.

The results of this study differed from those of Knyazeva et al. (2013), who identified a relationship between CG and independent boards that enhanced firm value and performance. However, this connection could only be made with other high-tech sectors that faced comparable major obstacles. Salem, Metawe, Youssef, and Mohamed (2019) investigated how the corporate governance qualities of the company affected its value. According to the study's findings, the qualifications of the board of directors had a roughly comparable impact on company value in Egypt and the United States. Board meetings, board independence, and gender diversity all had a favorable and significant relationship with corporate values in both nations.

The current study finding agreed with Awan (2012), who found no relationship between audit committee meeting size and frequency and firm performance; Johl, Kaur, and Cooper (2015), who revealed that independent audit committees had no impact on firm performance in Malaysia; and Ongore and K'Obonyo (2011), who identified that corporate governance characteristics such as ownership concentration, government ownership, and managerial discretion had no significant relationship with firm performance. Other studies include these of Post and Byron (2015) find no significant relationship between female gender representation

and market performance. Pletzer, Nikolova, Kedzior, and Voepel (2015) identified little evidence that additional women on corporate boards of directors improved corporate performance. Demir (2016) argued that while female inclusion on boards was beneficial in countries with better shareholder rights and more gender parity, it was negative in those with low gender parity. On the contrary, in terms of performance and corporate governance, other studies find that companies with more female board members routinely outperform their competitors (Zaichkowsky, 2014).

Srindhi, Gul, and Tsui (2011) provide additional contradictions with the current study. They employed idiosyncratic risk and earnings quality as dependent variables in their research. This study discovered that female boards of directors outperformed their male counterparts in terms of effectiveness and transparency when it came to managing business operations, particularly in audit and corporate governance. In a comparative study between the United States (a developed economy) and Pakistan (a developing economy), Ali and Isa (2018) found mixed results, which could be attributed to the use of data from both industrialized and developing countries; however, the current study focused on the latter and may be the source of different findings.

5.6.2 Corporate Governance, Idiosyncratic Risk and Value of Non-Financial Listed Firms

As a second objective, this study investigated the intervening effect of idiosyncratic risk in the relationship between corporate governance and the value of non-financial companies listed on the NSE. Because idiosyncratic risk had no intervening effect on the relationship between CG and the value of NFLCs listed on the NSE, the null hypothesis was not invalidated. This study found that CG explained 0.01 percent of the variation in firm value, according to an adjusted R^2 of 0.0001, F = 0.034, and p > 05. Corporate Governance had a coefficient (Þ) value of -0.001, t= - 0.18, p = 0.855 p > 05, suggesting no significant relationship with firm value. The

corresponding t value of -2.59 obtained was statistically significant, indicating a strong relationship between idiosyncratic risk and CG.

The relationship between idiosyncratic risk and company value was explored in the third stage, and it was found to be statistically insignificant, with adjusted R2 = 0.0049, F = 2.422, and p >.05. The fourth and last sub-hypothesis established that there was no link between Corporate Governance and the Economic Factors. Adjusted R2 of 0.0020, F of 1.27, p >.05 the relationship between idiosyncratic risk and business value was identified. This demonstrated that idiosyncratic risk had no effect on the relationship between CG and the value of NSE-listed NFLCs. The lack of idiosyncratic risk intervening effects in the relationship between CG and the value of NFLCs could be attributed to a lack of market transparency for corporate control, resulting in a lack of sufficient information on securities prices that could assist investors in making investment decisions. Corporate management decisions on financial policy, investment strategy, and operations, all of which are unique risks inherent in a particular company and its security, may not provide value to NFLCs if there is no intervening relationship.

As a result, this investigation's findings did not successfully invalidate Hypothesis 2. (H_2). Gokgoz and Altintas (2013) also obtained similar outcomes when they applied the Campbell et al. (2001) technique to demonstrate that idiosyncratic risk did not significantly predict prospective returns. There were no statistically significant changes between this study, which looked at a four-year period from 2007 to 2010, and the current study, which investigated the variables in a ten-year period. They also used the Campbell et al. (2001) approach to look at market-wide and idiosyncratic volatility. According to Dewanta and Arifin (2020), the members of the board of directors had a negative impact on the company's willingness to take risks. However, the size of the audit committee had no effect on the risk-taking behavior of industrial companies listed on the Indonesia Stock Exchange. The same study found that managerial

remuneration and ownership concentration had a favorable effect on corporate risk-taking. Other studies that support the current findings include those by Haryono and Paminto (2015), who found no relationship between listed company market value and corporate governance, and Abu-Ghunmi, Bino, and Tayeh (2015), who indicated that ownership concentration was adversely related to idiosyncratic risk.

The findings of this study's analysis ran counter to those of the following studies: those of Bennet et al. (2003), who found that idiosyncratic risk increased along with institutional ownership as a proxy for governance practices; findings of Wei, Chen, Lin, and Kang (2015), revealed that idiosyncratic risk and market risk had a significant relationship on the performance of financial companies listed but became less significant as organizations grew larger; a study by Bennet, Sias, Stark, Xu, and Malkiel from 2003, there was a relationship between institutional ownership, which is a proxy for corporate governance (CG), and idiosyncratic risk. Last but not least, Bartram, Brown, and Stulz (2016) established a relationship between idiosyncratic volatility and market risk, as well as a role for risk management in mediating the relationship between board size, foreign ownership, and financial performance. The use of an intervening effect rather than a direct relationship analysis in the current study may explain why the results of earlier studies differ from those of the current study. The majority of the research discussed above was conducted in nations with more advanced economies than Kenya's, and this may account for discrepancies in study findings.

5.6.3 Corporate Governance, Economic Factors, and the firm's Market Value

The third objective investigated the role of economic factors in moderating the relationship between CG and the value of publicly traded NFLCs. Economic element variables such as GDP growth rate, interest rate, and inflation rate were not predicted to have an effect on the

relationship between corporate governance and NFLC value in this study hypothesis. According to this study, the growth of GDP, rate of interest, and annual inflation all moderated the relationship between CG and firm value ($F = 1408.3$, p 0.05, $AdjR^2 = 0.9715$).

Economic factors, according to research findings, had a positive moderating effect on the relationship between CG and the value of NFLCs. This implies that managers should consider the effect of interest rates in their capital structure decision and when deciding on whether to borrow money because this may affect the cost of debt capital that these companies use. By implementing policies that encourage the expansion of domestic non-financial listed companies, the government and regulatory agencies ought to make sustained efforts to ensure a sustainable GDP growth rate. Finally, because current inflation rates have a detrimental impact on the capacity utilization of publicly traded non-financial companies, the government must always be on guard against them.

The results were in line with those of Megaravalli and Sampagnaro (2018), who found that while inflation had a significant and modest impact on the securities markets over the long term, the exchange rate had a large and favorable one. Acikalin, Aktaş, and Unal (2008) investigated the relationships between stock market returns and GDP, currency exchange, borrowing costs, and the balance of payments on Turkey's Istanbul Stock Exchange (ISE). Changes in GDP rates, foreign currency rates, and current account balances all had a beneficial impact on the ISE index, according to this study. The cointegrating model exemplifies the findings of Kimani and Mutuku (2013), who established a direct relationship between inflation and stock market performance.

Another study that supports the current findings is that of Wuhan, Suyuan, and Khurshid (2015), who investigated how interest rates affected investment in China's Jiangsu province between 2003 and 2012 and discovered that, while other variables such as market size, GDP

growth, and preferential policies had a significant impact on investment, interest rates had little impact. Inflation has a detrimental influence on the economy, according to Vedrin (2015), and, finally, according to Fischer (2013), who established a substantial relationship between rising inflation and a reduction in overall investment.

In contrast to the current study's findings,Wuhan et al. (2015) reported negative long-run and positive short-run moderating interactions between economic indicators, particularly interest rates. Two data analysis techniques were utilized in this study because they included both stationary and non-stationary variables, including the Johansen co-integration test for non-stationary variables. The differences in approach may have contributed to the conflicting outcomes because the current study was a panel study while this study was a time-series investigation.

The effects of firm and macroeconomic dynamics on stock returns were also studied in 2021 by Naseer, Muhammad, József, and Judit. The study's findings showed that firm tangibility, GDP, inflation, and money supply had negative relationships with financial performance; however, Machuki and Aosa (2011) also found that economic determinants had a minimal bearing on the value of Kenya's listed companies.

This study's findings are also contradictory to those of Heenetigala (2011), who claimed that CG was critical for company performance in difficult economic and political environments; Ahmad, Bakar, and Junoh (2021), who revealed that inflation and interest rates had a significant positive impact on the EV/EBITDA ratio, and Taslim (2017), who found a significant relationship between inflation rates and corporate performance.

.5.6.4 Corporate Governance, Idiosyncratic Risk, Economic Factors, and Value of Firms

As a final objective, this study looked at the joint effect of idiosyncratic risk and economic factors in the relationship between CG and the value of NFLCs listed on the NSE. According to the study hypothesis, the joint effect of idiosyncratic risk and economic factors on the relationship between CG and the value of NFLCs listed on the NSE was not significant. Corporate governance, idiosyncratic risk, and economic factors proxy variables all demonstrated a strong association with Firm Value (F= 1632.5, p< 0.01, AdjR2 = 0.9658), according to the findings. The entire model was statistically significant (p 0.05), demonstrating that CG, GDP growth rate, interest rate, inflation rate, and idiosyncratic risk all had a substantial impact on the NSE value of NFLCs. However, many studies have overlooked the combined effects of corporate governance, idiosyncratic risk, the economic factors, and the value of NFLCs. Although there have been numerous studies on corporate governance in Kenya, none have investigated the combined effects of corporate governance, idiosyncratic risk, economic factors, and the value of NFLCs.

This is a relatively new study and since the regression model contained independent variables that were statistically significant with a reasonably high R^2 made sense in that combined effects had a relationship with value of NFLCs. The statistical significance demonstrated that changes in the independent variables were related to changes in the dependent variable, and a high R^2 value suggested that the model explained a significant percentage of the variability in the independent variables. The current study and that of Ferreira and Laux's (2007) analysis of the relationship between corporate governance policy and idiosyncratic risk shared a number of characteristics, including the incorporation of share prices in risk valuations. The idiosyncratic risk was assessed in the current analysis using the same informative security prices as in the this

study. A combination of these reasons could explain the similarity in the study findings, which show that idiosyncratic risk is unrelated to both corporate investment efficiency and the value of NFLCs. Toledo and Bocatto (2015) established contradictory results with the current study after examining Canadian firms after the 2008 financial crisis, which brought forth corporate governance improvements. It's likely that the inconsistent results were caused by variations in the study's circumstances. This study was conducted in Canada, which relied on self-regulation and lacked market enforcement, neither of which are likely to be useful tools for implementing optimal governance principles. Prior research has only looked at two corporate governance variables at a time, at the most.

This study's findings differ from those of Delia (2015), who established a positive relationship between idiosyncratic risk and corporate governance in Australia. This result may be due to contextual differences, as Australia is a more developed country than Kenya. Unlike previous research on idiosyncratic risk and corporate governance, the current study investigated this relationship in the context of internal governance mechanisms and as an intervening variable in a developing economy. Such variances may explain disparities in the data and results. Table 5.7 summarizes the findings based on inferential interpretations as well as pertinent theoretical and empirical literature.

5.7 Summary of Hypothesis testing

This section contains a summary of the four research hypotheses as well as a discussion of the findings.

To test the null hypotheses, regression analysis and correlation inferential statistics were applied. The investigation's findings contradicted hypotheses three and four but did not invalidate hypotheses one and two.

The first hypothesis (H_1) looked into the direct relationship between CG and the value of NFLCs listed on the NSE. The findings revealed no statistically significant relationship between CG and NFLCs value ($p > 0.5$). As a result, the finding did not disprove the null hypothesis.

The second hypothesis (H_2) investigated if idiosyncratic risk played an intervening role in the relationship between CG and NFLC value. The findings revealed that idiosyncratic risk had no intervening effect on the relationship between CG and NFLC value ($p > 0.5$). As a result, the result did not rule out the null hypothesis.

The third hypothesis (H_3) investigated the role of economic factors in moderating the relationship between CG and NFLC value. The features of economic factors were the GDP growth rate, interest rate, and inflation rate that coexisted in the corporate environment and were included in the analysis. According to the study, economic factors considerably affected the relationship between CG and NFLC value. As a result, the null hypothesis was not supported.

The fourth hypothesis (H_4) investigated the joint effect of economic factors and idiosyncratic risk on the relationship between CG and NFLC value. The study's findings demonstrated that both idiosyncratic risk and economic factors influenced the relationship between CG and the value of NFLCs traded on the NSE. As a result, the investigations revealed that CG, IR, and EF significantly predicted the value of companies listed on the NSE jointly. As a result, the fourth hypothesis was proven false.

Table 5.7 Summary of the Hypotheses Findings

Study Objective	Hypothesis	Findings	Conclusions/Result
To identify the relation between CG and the value of NFLCs at the Nairobi Securities Exchange.	**Hypothesis One:** The value of non-financial companies listed at the NSE had no relationship with CG.	CG had no significant relationship with the value of NFLCs.	The hypothesis was not rejected.
To establish the intervening effect of idiosyncratic risk in the relationship between CG and the value of NFLCs listed at the Nairobi Securities Exchange.	**Hypothesis Two** Idiosyncratic risk had no intervening effect on the relationship between CG and the value of NFLCs listed at the NSE.	Idiosyncratic risk had no significant effect on the relationship between CG and the value of NFLCs listed on the NSE.	The hypothesis was not rejected.
Examine the moderating effect of the economic factors on the relationship between CG and the value of NFLCs at the Nairobi Securities Exchange	**Hypothesis Three:** The relationship between CG and the value of NFLCs at the NSE was not moderated by the economic factors.	The relationship between CG and the value of NFLCs on the NSE was significantly moderated by the economic factors.	Rejected the hypothesis
To establish the combined impact of idiosyncratic risk and the economic factors in the relationship between CG and the value of NFLCs listed at the NSE.	**Hypothesis Four:** Idiosyncratic risk and the economic factors had no combined effect on the relationship between CG and the value of NFLCs at the NSE.	The relationship between CG and the value of NFLCs on the NSE was jointly affected by idiosyncratic risk and economic factors.	Rejected the hypothesis

Source: Author 2022

CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

Finding out how corporate governance, idiosyncratic risk, economic conditions, and the value of NFLCs at Kenya's Nairobi Securities Exchange interacted was one of the study's key objectives. This chapter summarizes the conclusions drawn from study findings, research advances, and recommendations made for each research hypothesis. The study's shortcomings, as well as future research possibilities, are discussed.

6.2 Summary

This study concentrated on the relationship between CG, idiosyncratic risk, economic conditions, and the value of non-financial companies listed on the NSE. The study variables were divided into four groups in order to achieve the research objectives. The intervening (idiosyncratic risk), moderating (economic factors), dependent (firm value), and independent (CG) variables were initially identified. Board independence, board diversity, ownership concentration, board meetings, and audit committee meetings were provided as the independent variable indicators in this study. The idiosyncratic risk was used in this study as an intervening variable, Tobin's Q ratio, a market-based statistic, as the dependent variable, and GDP growth rate, interest rate, and inflation rate as the moderating factors.

This study's foundation is the agency hypothesis, which holds that when ownership and control are separated, an agency crisis emerges. Rather than acting in shareholders' best interests, management controls the company based on its interests. Agency relationships can be strained in non-financial listed companies because managers may focus on enhancing their utility rather than maximizing shareholder capital. This study was based on the positivist research philosophy because there was evidence of explicit claims, quantifiable variables, hypothesis testing, and

inferences concerning the relationships among the study variables. This study used a longitudinal descriptive design with explicitly stated assumptions and investigation questions. Twenty-nine (29) non-financial companies were chosen for the study's population based on the information that was continuously listed at Kenya's Nairobi Securities Exchange as at December 31, 2019. Publicly available financial statements of non-financial companies were used to collect secondary data, and descriptive variables such as mean, sample variance, maximum, minimum, deviation, and skewness were used to analyze the data. The gathered data were subjected to a number of tests, including the unit root test, autocorrelation, heteroscedasticity, multicollinearity, and normality testing. Prior to the intervention and moderation regression analyses using the (hierarchical) regression approach of Baron and Kenny (1986), the variables were tested for a correlation.

Finding out whether there was a correlation between corporate governance and the value of non-financial companies listed on Kenya's Nairobi Securities Exchange was the study's initial objective. According to this study, the first objective exhibited a statistically insignificant relationship. The second objective was to determine if idiosyncratic risk intervened in the relationship between corporate governance and NFLC value at the NSE. The results of this study show that idiosyncratic risk had no intervening effect on the relationship between corporate governance and the value of NFLCs at the Nairobi Securities Exchange. The third objective was to find out if economic factors had a moderating effect on the relationship between CG and the value of NFLCs at the NSE. The third objective conclusion of this study suggested that the relationships between corporate governance and the value of non-financial listed companies at the NSE were moderated by economic factors. The fourth objective looked into how economic and idiosyncratic risk factors combined to affect the relationship between corporate governance and the value of non-financial listed companies on Kenya's NSE. According to this study, corporate governance, idiosyncratic risk, and economic factors all had a

joint effect on the value of non-financial companies listed on Kenya's Nairobi Securities Exchange.

Corporate governance and the value of non-financial companies listed on the Nairobi Securities Exchange were the subjects of the first hypothesis (H1). According to statistical regression analysis, there is no significant relationship between corporate governance and the market value of non-financial listed companies at the Nairobi Securities Exchange ($p > 0.05$). We were unable to reject the null hypothesis since there was no significant relationship between corporate governance and the value of listed non-financial companies. The lack of a positive and statistically significant relationship between corporate governance and the value of listed non-financial firms demonstrates that the activities of boards of directors and the roles played by various owners and stakeholders had no impact on the value of the companies. The efficacy of the corporate governance system affects the cost of capital and the firm's value in addition to the quantity and availability of external financing. If external parties are less certain that they will receive an appropriate rate of return, they will be less inclined to give funds and more likely to charge higher rates. Therefore, boards must be created to improve the standard of the company and have the responsibility to carefully consider choices that are best for the company and its shareholders over the long term.

The second hypothesis (H_2) examined the intervening effect of idiosyncratic risk on the relationship between corporate governance and non-financial firm value listed at the Nairobi Securities Exchange. Due to the absence of an intervening effect in this investigation, null hypothesis two was not rejected. Corporate governance's effectiveness can have an effect on a company's decisions, especially when it comes to the incentives for insiders to expropriate minority shareholders during tumultuous situations. This discrepancy may be explained by emerging market management's tendency to disclose information with greater discretion, both

for positive and negative news, and by the fact that companies in these nations pool risks among themselves rather than through financial markets. This is because, according to research, stock markets in countries with weak corporate governance frameworks do a worse job of indicating the inappropriate allocation of resources. To help reduce idiosyncratic risk, it is, therefore, crucial to strengthen the financial, legal, and regulatory structures.

The third hypothesis (H_3) examined if economic factors can potentially moderate the relationship between corporate governance and the market value of non-financial companies listed on the Nairobi Securities Exchange. The model's findings refuted null hypothesis 3 by demonstrating that economic factors, as represented by GDP growth, interest rates, and annual inflation rates, moderated the relationship between CG and the value of non-financial listed companies at the NSE. The study's conclusions state that a company's directors and top management are completely in charge of making decisions about finance and liquidity. In order to produce value in the investment world, management must be innovative and develop strategies, methodologies, and business instruments that are suitable for the current economic conditions. Due to the potential impact on the cost of debt, managers should carefully analyze interest rates when selecting whether or not to borrow money. Additionally, managers should be cautious of the current inflation rate when making investment decisions due to its detrimental effects on firm capacity utilization. In order to encourage corporate growth and sustainability, governments and regulatory bodies should work to achieve a sustainable GDP growth rate.

The fourth hypothesis (H_4) states that the relationship between corporate governance and the value of NFLCs listed on the NSE is not jointly impacted by idiosyncratic risk and economic factors. The study's results showed that the relationships between corporate governance, idiosyncratic risk, and economic factors in the overall model were statistically significant ($p < 0.05$).

The fourth null hypothesis was disproved by the entire model's output, which showed a substantial relationship between the joint effect of idiosyncratic risk and economic factors in the relationship between corporate governance and the value of NFLCs listed companies. This provides a strong platform for government agencies and law enforcement personnel to take action against cases of corruption in listed firms, given the negative and insignificant relationship between CG and the value of non-financial listed companies. This is evidence that fraud, impunity, corruption, and poor governance of listed non-financial companies are largely caused by inadequate CG and the insignificant intervening effect of idiosyncratic risk.

6.3 Conclusions

The study's findings showed that non-independent directorship, female directorship on boards, the concentration of East African institutions' ownership, independent directors' meetings on the board, and audit committee meetings had no impact on the value of non-financial listed companies on the NSE. The idiosyncratic risk did not have an intervening effect on the relationship between corporate governance and the value of NFLCs at the NSE.

Corporate governance and the value of non-financial companies listed on the NSE are related, but the relationship is moderated by economic factors including GDP growth rates, changes in interest rates, and inflation. Finally, the relationship between corporate governance and the value of non-financial companies listed at the NSE is influenced jointly by idiosyncratic risk and economic factors. Hypotheses regarding the conceptual model were developed using the agency theory, modern portfolio theory, stakeholders' theory, resource dependency theory, efficient market hypothesis theory, and institutional theory. The positivist concept was applied because the study involved analyzing quantitative hypotheses and secondary data acquired from the audited financial reports of non-financial companies listed. Only two hypotheses were consistently consistent with the investigation's empirical analysis. The relationship between CG

and the value of NFLCs was positively and statistically significantly moderated by economic factors and idiosyncratic risk. Based on the findings of the empirical study, only two hypotheses the moderating and joint effects on the relationships were consistent with the theoretical predictions from the study conceptual model. However, both the direct and intervening effects were statistically insignificant.

The conclusion, implication, and interpretation suggest that when there is no obvious relationship between corporate governance and the value of non-financial listed companies, scandals that highlight governance flaws can occur as well as corruption, negligence on the part of managers, fraud, a lack of accountability, and negligence. In addition, there are other repercussions, such as limited corporate growth, frequent complaints, and high levels of waste, all of which point to a lack of strategic alignment and management. Due to the potential consequences of non-significance, the board of directors must exercise tight institutional corporate supervision and fiduciary obligation. The findings of the study demonstrated that the existence of independent directors, the presence of female directors on boards, the ownership of shares in companies by East African institutions, the attendance of independent directors at meetings of the audit committee, and the mere existence of independent directors did not significantly affect the value of non-financial listed firms, demonstrating that they did not add value to those firms. There is a need for more CG enforcement strategies, like those that relate ethical CG conduct to the listing standards that companies must follow. Non-financial listed firms in Kenya need to be successfully run in order to generate profits and boost shareholder wealth. Despite the lack of a statistically significant result, it is predicted that this study will encourage further research in this field.

The relationship between CG and FV of the NFLCs was not intervened by the idiosyncratic risk. This meant that corporate management's decisions on financial policy, investment strategy,

and operations, all of which are idiosyncratic risks exclusive to that company, had no effect on FV. There are consequences for the lack of a significant intervening effect. This finding has far-reaching ramifications for non-financial listed corporations on the NSE's risk management strategy. If non-financial publicly traded corporations do not recognize the risks of changing conditions or do not foresee the risks of expanding their respective firms, they risk losing investment capital and market share. The reputation of a company could suffer irreparable harm if risks, such as investment strategy and management strategies, are not adequately anticipated.

Economic factors moderated the relationship between CG and FV to a statistically significant degree. This study shows that, regardless of firm size, corporate directors and policymakers should deductively consider economic factors such as GDP growth, interest rates, and inflation rates in order to maximize the value of non-financial listed companies. As a result, while making decisions about investments and planning, economic factors should be taken into account. Additionally, navigating today's market prospects requires a well-balanced combination of these economic aspects because most investors need a fair dosage of economic growth in their portfolios because this growth has the ability to bring about an alluring long-term payoff. These variables have long been recognized as important drivers of business investment activity and as key indicators of economic growth. The economic factors variables give a sound theoretical framework for use as securities market value indicators when paired with Tobin's Q (Fell, 2015).

The joint effect of economic factors and idiosyncratic risk on the relationship between CG and FV revealed strong support for a non-zero result in the association between the variables. This conclusion suggests that non-financial listed firm directors should take excellent corporate governance, GDP growth rates, interest rates, inflation rates, and idiosyncratic risk into account when making investment decisions to raise the value of companies. This result highlights the

importance of CG in enhancing internal corporate structures and company growth. To raise a company's value, CG strengthens its potential for creativity, innovation, and deductive reasoning, as well as bringing in new ideas from independent directors. Therefore, the companies should follow the CG standards, provide protection against poor management, corruption, and insider transactions, boost openness, and encourage foreign investment, all of which will raise the value of the companies. Strong CG will also raise share returns, lower idiosyncratic risk, decrease agency expenses, and safeguard shareholders' value. This demonstrates how crucial it is for institutions to play this function.

The study's findings are consistent with the stockholders' theory, which posits that when companies lack legal protection, they will discount their shares to compensate for expropriation. Low share prices, on the other hand, may be unable to sufficiently raise demand for NSE non-financial listed companies, limiting the inflow of outside capital. This will also validate the roles of the efficient market hypothesis, stakeholders, modern portfolio, and resource dependency theories in this study. Low share prices, however, could not be able to sufficiently raise interest in NSE non-financial listed companies, thereby limiting the amount of outside money available. Additionally, this will demonstrate how crucial the efficient market hypothesis, stakeholders, contemporary portfolio, and resource dependency theories were to the outcome of this investigation.

6.4 Contributions of the Study

This study adds to the corpus of literature on corporate governance, idiosyncratic risk, economic factors, and the value of non-financial listed companies on the Nairobi Securities Exchange. This section discusses how the study adds to knowledge, theory, policy, and practice in the management and governance of publicly traded non-financial companies. The study's

contribution to existing knowledge was reviewed in the first portion, followed by contributions to policy and practice in the second section, and contributions to theory in the third section.

6.4.1 Contributions to Knowledge

The overall findings of this study are intended to broaden existing knowledge in a variety of areas, including corporate governance, idiosyncratic risk, economic factors, and the value of listed non-financial companies. It also has ramifications for the board of directors, firm management, regulators like the NSE and CMA, and investors. It also contributes to the agency theory by demonstrating the complex interactions between the variables. This study adds to the corpus of knowledge on CG, idiosyncratic risk, economic factors, and the value of non-financial listed companies on the NSE in the following ways. According to the study's main finding, corporate governance, idiosyncratic risk, and the economic factors all interact to project the value of non-financial listed companies.

The relationship between corporate governance and NFLC value is statistically insignificant when different CG mechanisms are used. First, the percentage of independent directors was analyzed, and the results revealed that there was no relationship. The interests of shareholders could not be protected as a result since their roles were rendered ineffective. This conclusion also suggests that the boards' value in terms of supervision and strategic judgment was lower. Another explanation for this conclusion could be that non-executive directors frequently hold part-time jobs, limiting their ability to oversee and advise the board. There is also the potential that directors lack the requisite abilities or expertise to carry out their duties adequately, or that they lack the motivation to do so. There was no relationship between the value of publicly traded NFLCs and the percentage of female directors on boards of directors in this study. This could mean that woman’s interests and duties as directors were not given priority or that it was challenging for them to express their rights in board management.

This research found an insignificant relationship between East African institutions' share ownership in NFLCs and firm value when the ownership variable was considered. This was in line with the findings of Bayrakdaroglu (2010), Ongore and K'Obonyo (2011), and El-Habashy (2019). These results showed that higher ownership concentration could lead to major shareholders prioritizing self-interest, resulting in the expropriation of business resources (i.e., wealth) and a loss in a firm's value. To put it another way, with concentrated ownership, majority/dominant shareholders may have more incentive to evade information disclosure, undermine monitoring mechanisms (to ease expropriation), and limit management's capacity to maximize value for their interests

This result was in contrast with Jensen's (1993) finding that board activities represented by board meetings and their frequency were acknowledged as a way to enhance board members' monitoring activity and ability to evaluate the performance of their firms. It also contradicted Ma and Tian's (2009) claim that the frequency of board meetings symbolizes the board's engagement in monitoring activities, making critical decisions, and supervising the board of management Therefore, increasing the frequency of board meetings could aid in improving corporate management oversight while also raising the company's value.

The results of the audit committee meetings supported those of Leung et al. (2014), who found that audit committee independence was negatively related to audit quality and listed company valuation. This suggests that the financial reporting process and its integrity were not dependent on audit committee sessions. This outcome covers the topic of disputed management investment choices, such as unsustainable expansion plans and unsustainable debt levels that had a detrimental impact on investor returns. Concerns also included profit warnings and significant profit losses brought on by poor corporate governance in publicly traded non-financial companies (CMA, 2019).

Second, the study created a conceptual model to improve the understanding of CG by integrating idiosyncratic risk into the relationship between CG and the value of publicly traded non-financial companies. This study helps company managers understand the connections between board actions, management responsibilities, and NFLC value. According to this study, idiosyncratic risk has no effect on the relationship between CG and the value of non-financial companies listed on the NSE.

According to this study, non-financial companies had internal strengths, general cultures, financial policies, investment strategies, and operating plans that did not add to the value of the non-financial companies quoted. According to Merton (1987) and the CAPM theory, idiosyncratic risk is priced in equilibrium as a result of imperfect diversification, which may explain why IR has no intervention effect in the relationship between CG and the value of NFLCs. Idiosyncratic risk, on the other hand, is by definition unpredictable, and studies have shown that it accounts for the majority of the fluctuations in risk that individual equities experience over time. High-powered incentives in companies may also encourage more managerial effort while exposing managers to idiosyncratic risk. When firm-specific uncertainty grows, risk-averse managers may underinvest, which results in sub-optimal investment decisions from the standpoint of well-diversified shareholdings.

According to the foregoing, it is vital to reevaluate the NFLCs' financial decision-making criteria and clarify the role of idiosyncratic risk in investment decisions. To reduce idiosyncratic risk and increase corporate value, non-financial firms must address the core causes of these findings, which require further study. The value of non-financial publicly listed companies, corporate governance, idiosyncratic risk, and economic considerations have all been studied in various ways in the past (Delia, 2015; Ang et al., 2006; Fu, 2009). However, because the four factors used in earlier investigations had different characteristics, the findings were unclear and

inconsistent. According to several studies, idiosyncratic risk is driven by corporate governance and information content in the market (Diana, Bino, & Tayeh, 2015; Ferreira & Laux, 2015). Others have used a fixed-effects model with heteroscedasticity and autocorrelation to investigate the relationships between CG and company value (Rajgopal & Venkatachalam, 2011; Brandt et al. 2010; Brockman & Yan, 2009). The current study used a random-effects model without heteroscedasticity and autocorrelation as an alternate technique to evaluate the consequences of idiosyncratic risk, and it can be compared to the prior methodology.

The study conducted for this analysis did not turn up any studies on the effect of idiosyncratic risk on the relationship between corporate governance and the value of Kenyan-listed non-financial companies. Idiosyncratic risk has no effect on the relationship between CG and the value of non-financial listed companies. As a result, this study adds to the body of knowledge and literature on CG, idiosyncratic risk, and NFLC value, as well as to the streams of literature on both corporate governance and idiosyncratic risk.

Third, the effect of economic factors on the relationship between corporate governance and the value of NSE-listed non-financial firms was explored. Changes in the GDP growth rate, interest rates, and inflation were among the economic factors examined in this study as moderators of the relationship between corporate governance and non-financial listed firm value. Industrialized economies, on the other hand, have performed substantial research on the effects of corporate governance, economic factors, and their relationship to firm value.

The study indicated that economic factors had a significant moderating effect on the relationship between CG and NFLCs firm value. The study benefited substantially from the real economic turmoil that Kenya experienced throughout the study period. The moderating impact on non-financial companies' value and potential influence on decisions about financing and liquidity are often made by the management of the company.

In order to optimize firm value, managers should match market demands with a well-balanced combination of various economic factor components, according to this study. Second, the government should be concerned about the effects of inflation on companies' operating capabilities and asset utilization. With varying degrees of success, emerging-market governments have experimented with a wide range of national policies to promote growth, raise standards of living, and achieve a number of other objectives.

The government can alter the money supply and interest rates through monetary policy tools, such as quantitative easing, which entail a central bank buying securities to decrease interest rates, expand the money supply, and promote greater lending to individuals and companies. Fiscal policy can also affect aggregate demand by altering taxes and public spending. The government and regulatory bodies should also think about enacting legislation encouraging local companies to grow and diversify, with the implication that management should look for these opportunities.

This study's main contribution was the finding that CG, IR, and EF jointly predict the value of listed non-financial companies. The CG measurement is used to create a relationship between CG and the value of non-financial listed companies and evaluated primarily from the viewpoints of board independence, female representation on corporate boards, share ownership by East African institutions, the frequency of meetings by the independent directors, and audit committee meetings.

Several studies have revealed a positive relationship between CG and the value of companies listed on various stock exchanges in both developed and emerging economies, according to the empirical literature review for this study (Wester, Borders, Boul & Horton, 2013; Bebchuck et al., 2009). In particular research, there has been demonstrated an unfavorable relationship (Clarke, 2009; Gupta et al., 2009).

Reviews of the empirical literature suggest that diversification can eliminate idiosyncratic risk. However, in practice, many investors find it difficult to diversify their holdings, implying that, in addition to market volatility, investors should consider abnormal returns when predicting expected returns. When idiosyncratic risk and economic variables are factored into an investing strategy, the positive relationship between CG and NFLCs' market value is expected to grow even stronger (Fu, 2009).

The underlying idea is that CEOs ought to do in-depth evaluations of the operations of their companies as well as economic factors that have been proven to have an impact on company value, investment strategies, and decisions. Finally, by demonstrating that economic factors other than idiosyncratic risk moderate the relationship between CG and the value of NFLCs, our study added to the discourse of corporate governance and non-financial listed company value. The results of this study add to a never-ending stream of discrepancies, underscoring the need for a more thorough understanding of why studies on CG and the value of NFLCs generate such wildly divergent results.

6.4.2 Contributions to Management Techniques and Policy

The findings of the study would be beneficial to a broad range of stakeholders, including CEOs, investors, regulators, legislators, and the government. For more than a century, CG has influenced policy objectives in both established and emerging market economies, and it is currently at the forefront of policy agendas in Kenya's securities market. According to Berglof and von Thadden (1999), it was financial crises and poor corporate performance in Sub-Saharan Africa that prompted the use of the term "corporate governance" as a catchphrase in corporate management discourse. Given the foregoing, the study's conclusions may be useful to Kenyan boards of directors, corporate executives, the Nairobi Securities Exchange, the Capital Markets Authority, and investors in a variety of ways. To increase firm value, non-financial companies'

independent directors must make a greater effort to support corporate governance principles and make disclosures, transparency, and responsibility to the company's stakeholders more straightforward. As a result, board committees should be properly formed to align the interests of the principal and the agent for excellent CG.

The findings of this study may aid top management in better understanding the relationships between board actions, management function, and non-financial listed firm value. The absence of idiosyncratic risk as an intervening factor in the relationship between CG and the value of NFLCs has ramifications that include the incompetence of companies' risk management committees. The risk connected with how non-financial listed firms conducted their businesses and system was referred to as idiosyncratic risk. It may be required to re-evaluate the membership, size, and independence of risk management committees to integrate and manage idiosyncratic risk. The current study outcome may also be helpful to regulators and institutions like the CMA and the NSE in their oversight and development of corporate governance standards. These findings recommend that regulators enhance corporate governance rules in non-financial listed corporations to achieve effective risk management strategies and increase firm value. It can be noted further that, idiosyncratic risk is unpredictable by nature and accounts for the majority of the risk that individual equities experience over time. As a result, if an investor desires to reduce the risk's potentially disastrous influence on his investment portfolio, he can do so by employing investing strategies such as diversification and hedging.

Corporate governance, idiosyncratic risk, and economic factors all had a significant impact on the value of publicly traded non-financial companies, and this has implications for executives and investors. This meant that firms had to be well-run and perform well at any level of idiosyncratic risk if investors were to get the most out of their investments. Because of the insignificant relationship findings in this study, the importance of idiosyncratic risk in

investment planning and its ability to forecast investment return and company value will gain a new dimension for emerging countries. This is backed by Ferreira and Laux's (2007) findings that idiosyncratic risk develops characteristics that are indications of effective corporate governance, such as improved management decision-making, better capital budgeting, and more efficient capital investment. This study's findings are also consistent with the findings of Gompers et al. (2003), who assert that increased transparency, openness to market discipline, and informed trading by entities working together to maintain informational efficiency in share prices have a direct impact on security prices. Finally, the positive effect of idiosyncratic risk and economic factors on the relationship between CG and NFLCs value could benefit all stakeholders in investment planning.

6.4.3 Contribution To Theory

The positivist research philosophy, which advocates for empirical testing of hypotheses to validate or refute existing ideas in the finance field, guided this study. The study's findings were linked to the basic agency theory that underpinned it, and was the study's main contribution. This notion was established by Berle and Means (1932) to help understand how the interests of business directors and managers differed from those of shareholders, creating concepts of agency and principle to explain the causes of such conflicts. According to the idea, to increase firm value, agents' objectives should not conflict with those of the principal, culminating in an agency problem (Mitchell & Meacheam, 2011). According to these authors, if a company develops an agency problem, corporate governance and idiosyncratic risk may be at odds, which must be addressed by implementing appropriate corporate rules so as to maximize value of non-financial listed firms.

Between 2010 and 2019, there was no substantial relationship between CG and the NFLCs on the NSE, according to this analysis. As a result, this finding contradicted the agency theory,

according to which firm management was expected to act as a proxy for shareholders. This research found that non-financial listed companies had an agency problem and that principals' and agents' interests were at odds, which did not contribute positively to the value of non-financial listed companies. The lack of an intervening effect of idiosyncratic risk on the link between CG and NFLC value showed the existence of agency concerns, according to the findings of this study. Monitoring, contractual incentives, engaging third-party assistance, or depending on a different pricing structure or incentive mechanism could all be employed by non-financial listed companies to overcome the static constraints posed by agency concerns. In order to realign these principal–agent interests through corporate governance procedures, incentives should be provided to directors and management through oversight.

6.5 Limitations of the Study

This study had shortcomings, and every effort was made to ensure that these limitations did not have a substantial impact on the findings. To begin, the study employed a longitudinal cross-sectional data technique, in which data from publicly available financial records was used to investigate the factors in question. These reports are referred to as general-purpose reports since they meet a wide range of user requirements. Given that these reports are prepared by management, any inconsistencies in their accuracy would affect the study results' reliability. Due to their availability in the financial statements, the study employed five proxies of Corporate Governance to create the composite value. The study's conclusions were limited to these proxies. However, other proxies of corporate governance, such as age, academic qualifications, and nationality, were not available in most publicly available financial statements and could have impacted the relationships investigated differently.

With clearly stated objectives and hypotheses, this study employed a correlation and descriptive research methodology. This approach, however, has the drawback of being unable to identify

cause and effect because sharing relationships does not imply that one variable causes the other. For this reason, while the research was able to indicate the direction and kind of correlations between variables, it was unable to show causality effects. There could also be variables intervening or moderating the relationships, and the direction of effects cannot be identified; this in no way implies that the relationship is beneficial or adverse. It's this idea that a correlational design can't tell which variable causes the other to change. Effects may well have a bidirectional meaning in the design, implying that they contribute to one another. However, with only a correlational design, none of this can be concluded.

6.6 Future Research Directions

Economic factors had a moderating effect on the relationship between CG and NFLCs value, but there was no intervening effect from idiosyncratic risk. Future research could go more into the concept of idiosyncratic risk as an intervening element in the relationship between CG and NFLC value by sector, utilizing primary data. This strategy could provide more information about the relationship between CG and the value of publicly traded non-financial companies.

Although the current study focused mostly on NFLCs, a study analyzing the relationship between CG and value among all publicly traded companies might be conducted. Similarly, a study on government-owned listed companies might be conducted to estimate the value of such state-owned firms listed, which in the Kenyan example often have a significant number of politically nominated board members. The results of such a study can offer further insight into the progress and effectiveness of government control over state-owned corporate boards. The current study focused on the quality of corporate governance in NFLCs, and such research can be beneficial to state-owned companies listed on the Nairobi Securities Exchange.

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APPENDICES

APPENDIX A: DATA CAPTURE FORM

This data collection form was created to gather information from Kenyan publicly traded non-financial listed companies. This study looked into how corporate governance, idiosyncratic risk, and the economic factors impacted the value of non-financial companies listed on the NSE.

Part 1: general information.

Category of the firm.

Manufacturing, Agricultural, Commercial Services, Insurance, Automobiles & Accessories, Construction & Allied, Investment, Manufacturing & Allied, Energy & Petroleum, Telecommunication & Technology, Investment Services..

Firm details:

Firm ……

Establishment date ……....

Category of the firm: Local Firm or Multinational Firm

Part 11: DATA CAPTURE FORM FOR CORPORATE GOVERNANCE INDEX

Corporate Governance practices ratios the years 2010-2019

	Year / Question	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
	BOARD INDEPENDENCE											
1	Non-executive independent director to total director ratio on the board											
	SUB-TOTAL											
B	DIVERSITY ON THE BOARD											
1	Female directors as a percentage of the total number of directors on the board.											
	SUB TOTAL											

C	OWNERSHIP CONCENTRATION											
1	Proportion of securities held by East Africa Institutions.											
	SUB-TOTAL											
D	BOARD ACTIVITY											
1	Proportion of meetings attended by non-executive board in a year											
2	The percentage of audit and risk committee meetings held each year.											
	SUB-TOTAL											

Source: author 2018

APPENDIX B

GDP ANNUAL GROWTH RATES

YEAR	ANNUAL GDP GROWTH RATE
2019	5.00
2018	5.60
2017	3.80
2016	4.20
2015	5.00
2014	5.00
2013	3.80
2012	4.60
2011	5.10
2010	8.10

APPENDIX C

QUARTERLY INTEREST RATES

DATE	RATE
25/11/2019	8.5
23/09/2019	9.00
24/07/2019	9.00
27/05/2019	9.00
27/05/2019	9.00
27/03/2019	9.00
28/01/2019	9.00
27/11/2018	9.00
25/09/2018	9.00
30/07/2018	9.00
28/05/2018	9.50
19/03/2018	9.50
22/01/2018	10.00
23/11/2017	10.00
18/09/2017	10.00
17/07/2017	10.00
29/05/2017	10.00
27/03/2017	10.00
30/01/2017	10.00
28/11/2016	10.00
20/09/2016	10.00
25/07/2016	10.50
23/05/2016	10.50
21/03/2016	11.50
20/01/2016	11.50
17/11/2015	11.50
22/09/2015	11.50
05/08/2015	11.50
07/07/2015	11.50
09/06/2015	10.00
06/05/2015	8.50
26/02/2015	8.50
14/01/2015	8.50
04/11/2014	8.50
03/09/2014	8.50
08/07/2014	8.50
30/04/2014	8.50
04/03/2014	8.50
14/01/2014	8.50
05/11/2013	8.50
03/09/2013	8.50
09/07/2013	8.50
07/05/2013	8.50
12/03/2013	9.50
10/01/2013	9.50
07/11/2012	11.00
05/09/2012	13.00

DATE	RATE
05/07/2012	16.50
05/06/2012	18.00
03/05/2012	18.00
04/04/2012	18.00
06/03/2012	18.00
01/02/2012	18.00
11/01/2012	18.00
01/12/2011	18.00
01/11/2011	16.50
05/10/2011	11.00
14/09/2011	7.00
27/07/2011	6.25
31/05/2011	6.25
22/03/2011	6.00
27/01/2011	5.75
25/11/2010	6.00
23/09/2010	6.00
02/08/2010	6.00
28/07/2010	6.00
20/05/2010	6.75
23/03/2010	6.75
26/01/2010	7.00

APPENDIX D

MONTHLY INFLATION RATES

Year	Month	12 MONTH INFLATION
2019	December	5.82
2019	November	5.56
2019	October	4.95
2019	September	3.83
2019	August	5.00
2019	July	6.27
2019	June	5.70
2019	May	4.49
2019	April	6.58
2019	March	4.35
2019	February	4.14
2019	January	4.70
2018	December	5.71
2018	November	5.58
2018	October	5.53
2018	September	5.70
2018	August	4.04
2018	July	4.35
2018	June	4.28
2018	May	3.95
2018	April	3.73
2018	March	4.18
2018	February	4.46
2018	January	4.83
2017	December	4.50
2017	November	4.73
2017	October	5.72
2017	September	7.06
2017	August	8.04
2017	July	7.47
2017	June	9.21
2017	May	11.70

2017	April	11.48
2017	March	10.28
2017	February	9.04
2017	January	6.99
2016	December	6.35
2016	November	6.68
2016	October	6.47
2016	September	6.34
2016	August	6.26
2016	July	6.40
2016	June	5.80
2016	May	5.00
2016	April	5.27
2016	March	6.45
2016	February	6.84
2016	January	7.78
2015	December	8.01
2015	November	7.32
2015	October	6.72
2015	September	5.97
2015	August	5.84
2015	July	6.62
2015	June	7.03
2015	May	6.87
2015	April	7.08
2015	March	6.31
2015	February	5.61
2015	January	5.53
2014	December	6.02
2014	November	6.09
2014	October	6.43
2014	September	6.60
2014	August	8.36
2014	July	7.67
2014	June	7.39
2014	May	7.30
2014	April	6.41

2014	March	6.27
2014	February	6.86
2014	January	7.21
2013	December	7.15
2013	November	7.36
2013	October	7.76
2013	September	8.29
2013	August	6.67
2013	July	6.03
2013	June	4.91
2013	May	4.05
2013	April	4.14
2013	March	4.11
2013	February	4.45
2013	January	3.67
2012	December	3.20
2012	November	3.25
2012	October	4.14
2012	September	5.32
2012	August	6.09
2012	July	7.74
2012	June	10.05
2012	May	12.22
2012	April	13.06
2012	March	15.61
2012	February	16.69
2012	January	18.31
2011	December	18.93
2011	November	19.72
2011	October	18.91
2011	September	17.32
2011	August	16.67
2011	July	15.53
2011	June	14.48
2011	May	12.95
2011	April	12.05
2011	March	9.19

2011	February	6.54
2011	January	5.42
2010	December	4.51
2010	November	3.84
2010	October	3.18
2010	September	3.21
2010	August	3.22
2010	July	3.57
2010	June	3.49
2010	May	3.88
2010	April	3.66
2010	March	3.97
2010	February	5.18
2010	January	5.95

APPENDIX E

FIRM IDIOSYNCRATIC RISK AND TOBIN'S Q

ID	FIRM	YEAR	IDIOSYNCRATIC RISK	TOBIN'S Q
1	EAAGADS	2010	0.0103	5.69
1		2011	0.0485	4.77
1		2012	0.1255	0.20
1		2013	0.1285	0.28
1		2014	0.0077	0.31
1		2015	0.0125	0.31
1		2016	0.0113	0.18
1		2017	0.0112	0.16
1		2018	0.0076	0.09
1		2019	0.0091	0.50
2	KAKUZI	2010	0.0100	0.74
2		2011	0.0033	0.50
2		2012	0.0027	0.86
2		2013	0.0055	0.89
2		2014	0.0074	0.96
2		2015	0.0102	2.07
2		2016	0.0033	1.76
2		2017	0.0028	1.74
2		2018	0.0015	1.47
2		2019	0.0052	2.35
3	SASINI	2010	0.0280	0.48
3		2011	0.0082	0.38
3		2012	0.0057	0.39
3		2013	0.0034	0.48
3		2014	0.0048	0.26
3		2015	0.0037	0.33
3		2016	0.0093	0.36
3		2017	0.0095	0.53
3		2018	0.0069	0.38
3		2019	0.0167	0.39
4	WILLIAMSON	2010	0.0059	0.56
4		2011	0.0048	0.38
4		2012	0.0025	0.41
4		2013	0.0015	0.68
4		2014	0.0045	0.77
4		2015	0.0042	0.76
4		2016	0.0115	0.46
4		2017	0.0030	0.53
4		2018	0.0052	0.38

4		2019	0.0091	0.75
5	KAPCHORUA	2010	0.0063	0.55
5		2011	0.0068	0.47
5		2012	0.0031	0.42
5		2013	0.0049	0.44
5		2014	0.0024	0.39
5		2015	0.0066	0.36
5		2016	0.0061	0.38
5		2017	0.0683	0.44
5		2018	0.0046	0.37
5		2019	0.0091	0.43
6	LIMURU	2010	0.0063	3.15
6		2011	0.0068	2.69
6		2012	0.0031	2.13
6		2013	0.0049	3.09
6		2014	0.0024	4.92
6		2015	0.0066	8.94
6		2016	0.0061	4.13
6		2017	0.0683	0.64
6		2018	0.0007	0.50
6		2019	0.0006	0.49
7	C&Gen	2010	0.0043	0.69
7		2011	0.0097	0.54
7		2012	0.0024	0.43
7		2013	0.0064	0.29
7		2014	0.0059	0.67
7		2015	0.0034	0.53
7		2016	0.0077	0.36
7		2017	0.0022	0.26
7		2018	0.0078	0.27
7		2019	0.0097	0.09
8	EVEREADY	2010	0.0718	3.00
8		2011	0.0518	1.50
8		2012	0.0811	0.66
8		2013	0.0859	1.43
8		2014	0.0149	3.51
8		2015	0.0658	0.47
8		2016	0.1221	0.38
8		2017	0.0121	0.63
8		2018	0.0110	0.47
8		2019	0.0100	0.38
9	EXPRESS	2010	0.0407	0.72
9		2011	0.0735	0.96
9		2012	0.0229	0.62
9		2013	0.0169	0.70

9		2014	0.0358	1.28
9		2015	0.0307	1.33
9		2016	0.0493	6.87
9		2017	0.0421	1.98
9		2018	0.0417	1.43
9		2019	0.0307	3.56
10	KQ	2010	0.0283	1.39
10		2011	0.0054	0.76
10		2012	0.0123	0.28
10		2013	0.0078	0.60
10		2014	0.0053	0.80
10		2015	0.0475	2.06
10		2016	0.0513	0.19
10		2017	0.0240	0.20
10		2018	0.0196	1.89
10		2019	0.2106	0.03
11	NATION	2010	0.0271	4.84
11		2011	0.0031	4.29
11		2012	0.0012	4.76
11		2013	0.0049	5.98
11		2014	0.0012	5.65
11		2015	0.0074	4.02
11		2016	0.0030	2.01
11		2017	0.0016	2.68
11		2018	0.0213	2.25
11		2019	0.0260	0.96
12	SAMEER	2010	0.0261	1.01
12		2011	0.0241	0.64
12		2012	0.0131	0.50
12		2013	0.0093	0.53
12		2014	0.0106	0.71
12		2015	0.0376	0.43
12		2016	0.0459	0.35
12		2017	0.0229	0.31
12		2018	0.1052	0.45
12		2019	0.2303	3.32
13	STANDARD	2010	0.0250	2.19
13		2011	0.0054	1.57
13		2012	0.0023	0.97
13		2013	0.0055	1.05
13		2014	0.0041	1.29
13		2015	0.0046	1.22
13		2016	0.0206	0.65
13		2017	0.0135	1.62
13		2018	0.0035	1.23

13		2019	0.0030	1.58
14	TPS SERENA	2010	0.0314	1.35
14		2011	0.0048	1.23
14		2012	0.0054	0.72
14		2013	0.0034	0.79
14		2014	0.0010	0.63
14		2015	0.0053	0.48
14		2016	0.0078	0.40
14		2017	0.0029	0.65
14		2018	0.0066	0.44
14		2019	0.0042	0.35
15	SCAN	2010	0.0279	2.33
15		2011	0.0095	3.19
15		2012	0.0061	4.94
15		2013	0.0041	2.25
15		2014	0.0031	2.03
15		2015	0.0112	1.32
15		2016	0.0089	0.78
15		2017	0.0052	0.80
15		2018	0.0086	0.62
15		2019	0.0135	0.71
16	BAMBURI	2010	0.0035	3.36
16		2011	0.0041	1.88
16		2012	0.0026	2.18
16		2013	0.0026	2.42
16		2014	0.0023	1.18
16		2015	0.0026	1.42
16		2016	0.0018	1.32
16		2017	0.0022	2.81
16		2018	0.0071	1.46
16		2019	0.0039	0.87
17	CROWN	2010	0.0084	0.77
17		2011	0.0020	0.43
17		2012	0.0051	0.82
17		2013	0.0021	1.31
17		2014	0.0025	1.98
17		2015	0.0037	3.21
17		2016	0.0066	1.91
17		2017	0.0092	3.24
17		2018	0.0050	5.56
17		2019	0.0930	3.40
18	EA CABLES	2010	0.0033	1.83
18		2011	0.0171	1.17
18		2012	0.0033	1.01
18		2013	0.0069	1.38

18		2014	0.0042	1.33
18		2015	0.1275	0.85
18		2016	0.0189	0.55
18		2017	0.0085	0.73
18		2018	0.1585	0.47
18		2019	0.0374	0.30
19	KENGEN	2010	0.0078	0.53
19		2011	0.0147	0.43
19		2012	0.0080	0.27
19		2013	0.0028	0.45
19		2014	0.0050	0.31
19		2015	0.0099	0.14
19		2016	0.0185	0.08
19		2017	0.0320	0.08
19		2018	0.0179	0.08
19		2019	0.0134	0.06
20	KPLC	2010	0.0137	0.55
20		2011	0.0098	0.94
20		2012	0.0045	0.78
20		2013	0.0072	0.45
20		2014	0.0042	0.36
20		2015	0.0054	0.60
20		2016	0.0155	0.29
20		2017	0.0265	0.22
20		2018	0.0917	0.12
20		2019	0.0748	0.10
21	CARBACID	2010	0.0023	3.81
21		2011	0.0031	2.12
21		2012	0.0013	2.57
21		2013	0.0014	2.47
21		2014	0.0061	2.35
21		2015	0.0062	0.24
21		2016	0.0061	1.46
21		2017	0.0042	1.06
21		2018	0.0110	0.71
21		2019	0.0102	0.72
22	TOTAL	2010	0.0040	0.52
22		2011	0.0010	0.45
22		2012	0.0012	0.62
22		2013	0.0049	0.43
22		2014	0.0031	0.92
22		2015	0.0173	0.69
22		2016	0.0062	0.56
22		2017	0.0052	0.75
22		2018	0.0073	0.75

22		2019	0.0053	0.71
23	BAT	2010	0.0022	4.20
23		2011	0.0053	3.96
23		2012	0.0050	6.95
23		2013	0.0042	7.86
23		2014	0.0037	11.07
23		2015	0.0053	8.87
23		2016	0.0054	9.54
23		2017	0.0030	9.69
23		2018	- 0.0036	3.60
23		2019	0.0004	3.62
24	CENTUM	2010	0.0136	1.56
24		2011	0.0132	1.36
24		2012	0.0111	0.86
24		2013	0.0088	0.96
24		2014	0.0025	0.58
24		2015	0.0038	1.50
24		2016	0.0023	1.07
24		2017	0.0046	0.51
24		2018	0.0078	0.95
24		2019	0.0050	2.14
25	EABL	2010	0.0019	3.89
25		2011	0.0040	3.23
25		2012	0.0056	3.59
25		2013	0.0037	4.80
25		2014	0.0015	3.98
25		2015	0.0020	3.90
25		2016	0.0051	3.63
25		2017	0.0035	3.35
25		2018	0.0033	9.47
25		2019	0.0141	7.95
26	UNGA LTD	2010	0.0220	0.28
26		2011	0.0537	0.20
26		2012	0.0237	0.25
26		2013	0.0020	0.30
26		2014	0.0018	0.56
26		2015	0.0051	0.48
26		2016	0.0123	0.48
26		2017	0.0041	0.08
26		2018	0.0058	0.53
26		2019	0.0079	0.43
27	PORTLAND	2010	0.0063	1.82
27		2011	0.0020	1.28
27		2012	0.0053	0.76
27		2013	0.0022	0.88

27		2014	0.0066	0.78
27		2015	0.0052	0.30
27		2016	0.0108	0.23
27		2017	0.0103	0.14
27		2018	0.0104	0.06
27		2019	0.0302	0.06
28	BOC	2010	0.0031	2.85
28		2011	0.0113	2.18
28		2012	0.0032	2.18
28		2013	0.0021	1.18
28		2014	0.0054	1.40
28		2015	0.0204	1.18
28		2016	0.0075	0.90
28		2017	0.0664	1.24
28		2018	0.0030	0.73
28		2019	0.0106	0.77
29	SAFCOM	2010	0.0226	3.72
29		2011	0.0206	2.25
29		2012	0.0015	2.49
29		2013	0.0132	2.99
29		2014	0.0017	4.73
29		2015	0.0078	6.19
29		2016	0.0038	5.80
29		2017	0.0116	6.71
29		2018	0.0019	9.49
29		2019	0.0053	8.74

APPENDIX F

SELECTED NON-FINANCIAL LISTED FIRMS AND YEAR OF LISTING.

S/No.	COMPANY	Year of Listing.
	AGRICULTURAL	
1	Eaagads Ltd Ord 1.25 AIMS	1972
2	Kakuzi Plc Ord.5.00	1951
3	Kapchorua Tea Co. Ltd Ord 5.00 AIMS	1972
4	The Limuru Tea Co. Ltd Ord 20.00 AIMS	1967
5	Sasini Ltd Ord 1.00	1965
6	Williamson Tea Kenya Ltd Ord 5.00AIMS	1972
	AUTOMOBILES & ACCESSORIES	
7	Car & General (K) Ltd Ord 5.00	1950
	COMMERCIAL AND SERVICES	
8	Eveready East Africa Ltd Ord.1.00	2006
9	Express Kenya Ltd Ord 5.00AIMS	1978
10	Kenya Airways Ltd Ord 5.00	1996
11	Nation Media Group Ltd Ord. 2.50	1973
12	Sameer Africa Ltd Ord 5.00	1994
13	Standard Group Ltd Ord 5.00	1954
14	TPS Eastern Africa Ltd Ord 1.00	1997
15	WPP Scan group Ltd Ord 1.00	2006
	CONSTRUCTION & ALLIED	
16	Bamburi Cement Ltd Ord 5.00	1970
17	Crown Paints Kenya Ltd Ord 5.00	1992
18	E.A.Cables Ltd Ord 0.50	1973
19	E.A.Portland Cement Co. Ltd Ord 5.00	1972
	ENERGY & PETROLEUM	
20	KenGen Co. Ltd Ord. 2.50	2006
21	Kenya Power & Lighting Co Ltd Ord 2.50	1972
22	Total Kenya Ltd Ord 5.00	1988
	INVESTMENT	
23	Centum Investment Co Plc Ord 0.50	1977
	INVESTMENT SERVICES	
	MANUFACTURING & ALLIED	
24	B.O.C Kenya Ltd Ord 5.00	1969
25	British American Tobacco Kenya Ltd Ord 10.00	1969
26	Carbacid Investments Plc Ord 1.00	1972
27	East African Breweries Ltd Ord 2.00	1972
28	Unga Group Ltd Ord 5.00	1971
	TELECOMMUNICATION	
29	Safaricom Ltd Ord 0.05	2008

APPENDIX G: TRANSFORMED RAW DATA

ID	FIRM	YEAR	CG (Ratio)	GDP growth rate (%)	Interest rate (%)	Inflation rate (%)	economic factors (%)	Idiosyncratic Risk (Ratio)	TOBIN`S Q (Ratio)	Centered Value cg*gdp	Centered Value cg*int	Centered Value cg*infl
1	EAAGADS	2010	2.43	2.898	6.8305	2.074	14.232	3.9497	3.157	30.770	-25.077	-23.967
1		2011	2.36	2.470	25.7942	3.742	34.366	1.7276	1.745	2.658	0.101	-9.380
1		2012	2.55	2.145	45.5802	3.066	53.341	0.8125	2.055	-4.708	8.160	-5.943
1		2013	2.53	2.429	26.6856	2.387	34.032	0.7942	2.646	1.132	0.741	-12.250
1		2014	2.45	2.324	26.6856	2.702	34.161	4.4627	2.317	-1.974	0.617	-9.532
1		2015	2.48	2.387	36.1352	2.569	43.572	3.6187	2.440	-0.234	7.084	-10.998
1		2016	2.52	2.429	24.8253	2.510	32.284	3.7925	2.502	1.132	-0.608	-11.937
1		2017	2.42	2.214	24.2152	2.827	31.675	3.8076	2.216	-4.019	-0.699	-7.405
1		2018	2.51	2.449	23.3096	2.168	30.437	4.4842	2.976	1.875	-1.764	-13.239
1		2019	2.57	2.258	18.2037	2.280	25.312	4.1642	2.793	-3.333	-3.962	-9.172
2	KAKUZI	2010	2.06	2.898	6.8305	2.074	13.862	4.0004	3.157	30.770	-25.077	-23.967
2		2011	2.16	2.470	25.7942	3.742	34.166	6.1456	1.745	2.658	0.101	-9.380
2		2012	2.19	2.145	45.5802	3.066	52.981	6.5582	2.055	-4.708	8.160	-5.943
2		2013	2.29	2.429	26.6856	2.387	33.792	5.0921	2.646	1.132	0.741	-12.250
2		2014	2.4	2.324	26.6856	2.702	34.111	4.5329	2.317	-1.974	0.617	-9.532
2		2015	2.41	2.387	36.1352	2.569	43.502	3.9590	2.440	-0.234	7.084	-10.998
2		2016	2.45	2.429	24.8253	2.510	32.214	6.1845	2.502	1.132	-0.608	-11.937
2		2017	2.58	2.214	24.2152	2.827	31.835	6.5000	2.216	-4.019	-0.699	-7.405
2		2018	2.5	2.449	23.3096	2.168	30.427	7.8961	2.976	1.875	-1.764	-13.239
2		2019	2.3	2.258	18.2037	2.280	25.042	5.2326	2.793	-3.333	-3.962	-9.172
3	SASINI	2010	3.05	2.898	6.8305	2.074	14.852	2.4120	3.157	30.770	-25.077	-23.967
3		2011	3.1	2.470	25.7942	3.742	35.106	4.3412	1.745	2.658	0.101	-9.380
3		2012	2.96	2.145	45.5802	3.066	53.751	5.0362	2.055	-4.708	8.160	-5.943

3		2013	3.05	2.429	26.6856	2.387	34.552	6.1141	2.646	1.132	0.741	-12.250
3		2014	3.01	2.324	26.6856	2.702	34.721	5.3788	2.317	-1.974	0.617	-9.532
3		2015	2.98	2.387	36.1352	2.569	44.072	5.9404	2.440	-0.234	7.084	-10.998
3		2016	3.13	2.429	24.8253	2.510	32.894	4.1310	2.502	1.132	-0.608	-11.937
3		2017	3.26	2.214	24.2152	2.827	32.515	4.0906	2.216	-4.019	-0.699	-7.405
3		2018	3.7	2.449	23.3096	2.168	31.627	4.6750	2.976	1.875	-1.764	-13.239
3		2019	3.61	2.258	18.2037	2.280	26.352	3.1575	2.793	-3.333	-3.962	-9.172
4	WILLIAMSON	2010	2.27	2.898	6.8305	2.074	14.072	4.9652	3.157	30.770	-25.077	-23.967
4		2011	2.22	2.470	25.7942	3.742	34.226	5.3813	1.745	2.658	0.101	-9.380
4		2012	2.24	2.145	45.5802	3.066	53.031	6.7401	2.055	-4.708	8.160	-5.943
4		2013	2.23	2.429	26.6856	2.387	33.732	7.9382	2.646	1.132	0.741	-12.250
4		2014	2.11	2.324	26.6856	2.702	33.821	5.5288	2.317	-1.974	0.617	-9.532
4		2015	2.2	2.387	36.1352	2.569	43.292	5.6705	2.440	-0.234	7.084	-10.998
4		2016	2.22	2.429	24.8253	2.510	31.984	3.7666	2.502	1.132	-0.608	-11.937
4		2017	2.18	2.214	24.2152	2.827	31.435	6.3635	2.216	-4.019	-0.699	-7.405
4		2018	2.38	2.449	23.3096	2.168	30.307	5.2168	2.976	1.875	-1.764	-13.239
4		2019	2.29	2.258	18.2037	2.280	25.032	4.1690	2.793	-3.333	-3.962	-9.172
5	KAPCHORUA	2010	2.76	2.898	6.8305	2.074	14.562	4.8442	3.157	30.770	-25.077	-23.967
5		2011	2.7	2.470	25.7942	3.742	34.706	4.6880	1.745	2.658	0.101	-9.380
5		2012	3.01	2.145	45.5802	3.066	53.801	6.3077	2.055	-4.708	8.160	-5.943
5		2013	2.99	2.429	26.6856	2.387	34.492	5.3299	2.646	1.132	0.741	-12.250
5		2014	3	2.324	26.6856	2.702	34.711	6.8301	2.317	-1.974	0.617	-9.532
5		2015	2.83	2.387	36.1352	2.569	43.922	4.7516	2.440	-0.234	7.084	-10.998
5		2016	2.75	2.429	24.8253	2.510	32.514	4.8931	2.502	1.132	-0.608	-11.937
5		2017	2.73	2.214	24.2152	2.827	31.985	1.3588	2.216	-4.019	-0.699	-7.405
5		2018	3	2.449	23.3096	2.168	30.927	5.4836	2.976	1.875	-1.764	-13.239
5		2019	2.9	2.258	18.2037	2.280	25.642	4.1690	2.793	-3.333	-3.962	-9.172
6	LIMURU	2010	2.87	2.898	6.8305	2.074	14.672	4.8442	3.157	30.770	-25.077	-23.967
6		2011	2.93	2.470	25.7942	3.742	34.936	4.6880	1.745	2.658	0.101	-9.380

6		2012	2.97	2.145	45.5802	3.066	53.761	6.3077	2.055	-4.708	8.160	-5.943
6		2013	3.44	2.429	26.6856	2.387	34.942	5.3299	2.646	1.132	0.741	-12.250
6		2014	3.1	2.324	26.6856	2.702	34.811	6.8301	2.317	-1.974	0.617	-9.532
6		2015	2.73	2.387	36.1352	2.569	43.822	4.7516	2.440	-0.234	7.084	-10.998
6		2016	2.56	2.429	24.8253	2.510	32.324	4.8931	2.502	1.132	-0.608	-11.937
6		2017	3.66	2.214	24.2152	2.827	32.915	1.3588	2.216	-4.019	-0.699	-7.405
6		2018	3.05	2.449	23.3096	2.168	30.977	10.0872	2.976	1.875	-1.764	-13.239
6		2019	3.31	2.258	18.2037	2.280	26.052	10.5405	2.793	-3.333	-3.962	-9.172
7	C&Gen	2010	3.08	2.898	6.8305	2.074	14.882	5.5898	3.157	30.770	-25.077	-23.967
7		2011	3.2	2.470	25.7942	3.742	35.206	4.0500	1.745	2.658	0.101	-9.380
7		2012	3.1	2.145	45.5802	3.066	53.891	6.8561	2.055	-4.708	8.160	-5.943
7		2013	3.02	2.429	26.6856	2.387	34.522	4.8106	2.646	1.132	0.741	-12.250
7		2014	2.78	2.324	26.6856	2.702	34.491	4.9854	2.317	-1.974	0.617	-9.532
7		2015	3.11	2.387	36.1352	2.569	44.202	6.0825	2.440	-0.234	7.084	-10.998
7		2016	3.31	2.429	24.8253	2.510	33.074	4.4551	2.502	1.132	-0.608	-11.937
7		2017	3.08	2.214	24.2152	2.827	32.335	7.0547	2.216	-4.019	-0.699	-7.405
7		2018	3.19	2.449	23.3096	2.168	31.117	4.4544	2.976	1.875	-1.764	-13.239
7		2019	3.17	2.258	18.2037	2.280	25.912	4.0465	2.793	-3.333	-3.962	-9.172
8	EVEREADY	2010	2.69	2.898	6.8305	2.074	14.492	1.3084	3.157	30.770	-25.077	-23.967
8		2011	2.81	2.470	25.7942	3.742	34.816	1.6528	1.745	2.658	0.101	-9.380
8		2012	2.96	2.145	45.5802	3.066	53.751	1.1897	2.055	-4.708	8.160	-5.943
8		2013	2.97	2.429	26.6856	2.387	34.472	1.1358	2.646	1.132	0.741	-12.250
8		2014	3.06	2.324	26.6856	2.702	34.771	3.3393	2.317	-1.974	0.617	-9.532
8		2015	2.96	2.387	36.1352	2.569	44.052	1.3970	2.440	-0.234	7.084	-10.998
8		2016	3.18	2.429	24.8253	2.510	32.944	0.8339	2.502	1.132	-0.608	-11.937
8		2017	2.94	2.214	24.2152	2.827	32.195	3.6720	2.216	-4.019	-0.699	-7.405
8		2018	2.83	2.449	23.3096	2.168	30.757	3.8320	2.976	1.875	-1.764	-13.239
8		2019	2.99	2.258	18.2037	2.280	25.732	3.9953	2.793	-3.333	-3.962	-9.172
9	EXPRESS	2010	3.26	2.898	6.8305	2.074	15.062	1.9335	3.157	30.770	-25.077	-23.967

9		2011	3.17	2.470	25.7942	3.742	35.176	1.2849	1.745	2.658	0.101	-9.380
9		2012	3.08	2.145	45.5802	3.066	53.871	2.6920	2.055	-4.708	8.160	-5.943
9		2013	2.95	2.429	26.6856	2.387	34.452	3.1421	2.646	1.132	0.741	-12.250
9		2014	2.84	2.324	26.6856	2.702	34.551	2.0897	2.317	-1.974	0.617	-9.532
9		2015	3.12	2.387	36.1352	2.569	44.212	2.2882	2.440	-0.234	7.084	-10.998
9		2016	3.09	2.429	24.8253	2.510	32.854	1.7088	2.502	1.132	-0.608	-11.937
9		2017	3.03	2.214	24.2152	2.827	32.285	1.8933	2.216	-4.019	-0.699	-7.405
9		2018	2.91	2.449	23.3096	2.168	30.837	1.9027	2.976	1.875	-1.764	-13.239
9		2019	3.05	2.258	18.2037	2.280	25.792	2.2897	2.793	-3.333	-3.962	-9.172
10	KQ	2010	2.89	2.898	6.8305	2.074	14.692	2.3952	3.157	30.770	-25.077	-23.967
10		2011	2.85	2.470	25.7942	3.742	34.856	5.1263	1.745	2.658	0.101	-9.380
10		2012	2.87	2.145	45.5802	3.066	53.661	3.6469	2.055	-4.708	8.160	-5.943
10		2013	2.88	2.429	26.6856	2.387	34.382	4.4393	2.646	1.132	0.741	-12.250
10		2014	2.76	2.324	26.6856	2.702	34.471	5.1626	2.317	-1.974	0.617	-9.532
10		2015	2.94	2.387	36.1352	2.569	44.032	1.7517	2.440	-0.234	7.084	-10.998
10		2016	2.88	2.429	24.8253	2.510	32.644	1.6634	2.502	1.132	-0.608	-11.937
10		2017	2.86	2.214	24.2152	2.827	32.115	2.6228	2.216	-4.019	-0.699	-7.405
10		2018	2.86	2.449	23.3096	2.168	30.787	2.9147	2.976	1.875	-1.764	-13.239
10		2019	3.08	2.258	18.2037	2.280	25.822	0.4576	2.793	-3.333	-3.962	-9.172
11	NATION	2010	2.83	2.898	6.8305	2.074	14.632	2.4561	3.157	30.770	-25.077	-23.967
11		2011	2.65	2.470	25.7942	3.742	34.656	6.2950	1.745	2.658	0.101	-9.380
11		2012	2.95	2.145	45.5802	3.066	53.741	8.5617	2.055	-4.708	8.160	-5.943
11		2013	3.07	2.429	26.6856	2.387	34.572	5.3266	2.646	1.132	0.741	-12.250
11		2014	2.86	2.324	26.6856	2.702	34.571	8.5312	2.317	-1.974	0.617	-9.532
11		2015	3.01	2.387	36.1352	2.569	44.102	4.5285	2.440	-0.234	7.084	-10.998
11		2016	2.87	2.429	24.8253	2.510	32.634	6.3437	2.502	1.132	-0.608	-11.937
11		2017	2.85	2.214	24.2152	2.827	32.105	7.7608	2.216	-4.019	-0.699	-7.405
11		2018	2.98	2.449	23.3096	2.168	30.907	2.7954	2.976	1.875	-1.764	-13.239
11		2019	2.98	2.258	18.2037	2.280	25.722	2.5105	2.793	-3.333	-3.962	-9.172

12	SAMEER	2010	2.79	2.898	6.8305	2.074	14.592	2.5089	3.157	30.770	-25.077	-23.967
12		2011	3	2.470	25.7942	3.742	35.006	2.6199	1.745	2.658	0.101	-9.380
12		2012	2.92	2.145	45.5802	3.066	53.711	3.5491	2.055	-4.708	8.160	-5.943
12		2013	3.16	2.429	26.6856	2.387	34.662	4.1245	2.646	1.132	0.741	-12.250
12		2014	3.06	2.324	26.6856	2.702	34.771	3.9040	2.317	-1.974	0.617	-9.532
12		2015	2.94	2.387	36.1352	2.569	44.032	2.0298	2.440	-0.234	7.084	-10.998
12		2016	2.97	2.429	24.8253	2.510	32.734	1.7896	2.502	1.132	-0.608	-11.937
12		2017	3.45	2.214	24.2152	2.827	32.705	2.6872	2.216	-4.019	-0.699	-7.405
12		2018	3.13	2.449	23.3096	2.168	31.057	0.9565	2.976	1.875	-1.764	-13.239
12		2019	3.32	2.258	18.2037	2.280	26.062	0.4067	2.793	-3.333	-3.962	-9.172
13	STANDARD	2010	2.53	2.898	6.8305	2.074	14.332	2.5665	3.157	30.770	-25.077	-23.967
13		2011	2.42	2.470	25.7942	3.742	34.426	5.1352	1.745	2.658	0.101	-9.380
13		2012	2.68	2.145	45.5802	3.066	53.471	6.9256	2.055	-4.708	8.160	-5.943
13		2013	2.62	2.429	26.6856	2.387	34.122	5.0941	2.646	1.132	0.741	-12.250
13		2014	2.61	2.324	26.6856	2.702	34.321	5.6814	2.317	-1.974	0.617	-9.532
13		2015	2.84	2.387	36.1352	2.569	43.932	5.4502	2.440	-0.234	7.084	-10.998
13		2016	2.74	2.429	24.8253	2.510	32.504	2.8413	2.502	1.132	-0.608	-11.937
13		2017	2.78	2.214	24.2152	2.827	32.035	3.4918	2.216	-4.019	-0.699	-7.405
13		2018	2.72	2.449	23.3096	2.168	30.647	6.0122	2.976	1.875	-1.764	-13.239
13		2019	2.75	2.258	18.2037	2.280	25.492	6.3939	2.793	-3.333	-3.962	-9.172
14	TPS SERENA	2010	2.85	1.225	18.7988	3.886	26.759	2.2606	1.696	18.392	2.350	3.977
14		2011	2.84	1.643	20.0486	3.256	27.788	5.3959	1.951	1.767	0.287	0.708
14		2012	2.63	2.898	6.8305	2.074	14.432	5.1382	3.157	30.770	-25.077	-23.967
14		2013	2.58	2.470	25.7942	3.742	34.586	6.1111	1.745	2.658	0.101	-9.380
14		2014	2.34	2.145	45.5802	3.066	53.131	8.9411	2.055	-4.708	8.160	-5.943
14		2015	2.5	2.429	26.6856	2.387	34.002	5.1819	2.646	1.132	0.741	-12.250
14		2016	2.555	2.387	36.1352	2.569	43.647	4.4358	2.440	-0.234	7.084	-10.998
14		2017	2.61	2.429	24.8253	2.510	32.374	6.4109	2.502	1.132	-0.608	-11.937
14		2018	2.66	2.449	23.3096	2.168	30.587	4.7536	2.976	1.875	-1.764	-13.239

14		2019	2.67	2.258	18.2037	2.280	25.412	5.6726	2.793	-3.333	-3.962	-9.172
15	SCAN	2010	2.53	2.898	6.8305	2.074	14.332	2.4145	3.157	30.770	-25.077	-23.967
15		2011	2.51	2.470	25.7942	3.742	34.516	4.0824	1.745	2.658	0.101	-9.380
15		2012	2.43	2.145	45.5802	3.066	53.221	4.9117	2.055	-4.708	8.160	-5.943
15		2013	2.38	2.429	26.6856	2.387	33.882	5.6807	2.646	1.132	0.741	-12.250
15		2014	2.27	2.324	26.6856	2.702	33.981	6.2990	2.317	-1.974	0.617	-9.532
15		2015	2.28	2.387	36.1352	2.569	43.372	3.8074	2.440	-0.234	7.084	-10.998
15		2016	2.3	2.429	24.8253	2.510	32.064	4.1981	2.502	1.132	-0.608	-11.937
15		2017	2.69	2.214	24.2152	2.827	31.945	5.2055	2.216	-4.019	-0.699	-7.405
15		2018	2.31	2.449	23.3096	2.168	30.237	4.2715	2.976	1.875	-1.764	-13.239
15		2019	2.45	2.258	18.2037	2.280	25.192	3.4949	2.793	-3.333	-3.962	-9.172
16	BAMBURI	2010	2.74	2.898	6.8305	2.074	14.542	6.0472	3.157	30.770	-25.077	-23.967
16		2011	3.05	2.470	25.7942	3.742	35.056	5.6807	1.745	2.658	0.101	-9.380
16		2012	2.76	2.145	45.4195	3.066	53.390	6.6812	2.055	-4.708	8.094	-5.943
16		2013	3.02	2.429	26.6856	2.387	34.522	6.6835	2.646	1.132	0.741	-12.250
16		2014	3.18	2.324	26.6856	2.702	34.891	6.9805	2.317	-1.974	0.617	-9.532
16		2015	2.85	2.387	36.1352	2.569	43.942	6.6892	2.440	-0.234	7.084	-10.998
16		2016	2.67	2.429	24.8253	2.510	32.434	7.5020	2.502	1.132	-0.608	-11.937
16		2017	3.05	2.214	24.2152	2.827	32.305	7.0460	2.216	-4.019	-0.699	-7.405
16		2018	3.22	2.449	23.3096	2.168	31.147	4.6146	2.976	1.875	-1.764	-13.239
16		2019	3.22	2.258	18.2037	2.280	25.962	5.7989	2.793	-3.333	-3.962	-9.172
17	CROWN	2010	2.95	2.898	6.8305	2.074	14.752	4.3098	3.157	30.770	-25.077	-23.967
17		2011	2.82	2.470	25.7942	3.742	34.826	7.2881	1.745	2.658	0.101	-9.380
17		2012	2.73	2.145	45.5802	3.066	53.521	5.2559	2.055	-4.708	8.160	-5.943
17		2013	2.8	2.429	26.6856	2.387	34.302	7.1276	2.646	1.132	0.741	-12.250
17		2014	2.48	2.324	26.6856	2.702	34.191	6.7492	2.317	-1.974	0.617	-9.532
17		2015	2.75	2.387	36.1352	2.569	43.842	5.8941	2.440	-0.234	7.084	-10.998
17		2016	2.52	2.429	24.8253	2.510	32.284	4.7425	2.502	1.132	-0.608	-11.937
17		2017	2.64	2.214	24.2152	2.827	31.895	4.1545	2.216	-4.019	-0.699	-7.405

17		2018	2.62	2.449	23.3096	2.168	30.547	5.2965	2.976	1.875	-1.764	-13.239
17		2019	2.59	2.258	18.2037	2.280	25.332	1.0640	2.793	-3.333	-3.962	-9.172
18	EA CABLES	2010	3.23	2.898	6.8305	2.074	15.032	6.1644	3.157	30.770	-25.077	-23.967
18		2011	3.43	2.470	25.7942	3.742	35.436	3.1234	1.745	2.658	0.101	-9.380
18		2012	3.43	2.145	45.5802	3.066	54.221	6.1776	2.055	-4.708	8.160	-5.943
18		2013	3.41	2.429	26.6856	2.387	34.912	4.6603	2.646	1.132	0.741	-12.250
18		2014	3.41	2.324	26.6856	2.702	35.121	5.6577	2.317	-1.974	0.617	-9.532
18		2015	3.3	2.387	36.1352	2.569	44.392	0.8000	2.440	-0.234	7.084	-10.998
18		2016	3.38	2.429	24.8253	2.510	33.144	2.9710	2.502	1.132	-0.608	-11.937
18		2017	3.17	2.214	24.2152	2.827	32.425	4.2777	2.216	-4.019	-0.699	-7.405
18		2018	3.59	2.449	23.3096	2.168	31.517	0.6401	2.976	1.875	-1.764	-13.239
18		2019	3.58	2.258	18.2037	2.280	26.322	2.0379	2.793	-3.333	-3.962	-9.172
19	KENGEN	2010	3.52	2.898	6.8305	2.074	15.322	4.4396	3.157	30.770	-25.077	-23.967
19		2011	3.47	2.470	25.7942	3.742	35.476	3.3615	1.745	2.658	0.101	-9.380
19		2012	3.51	2.145	45.5802	3.066	54.301	4.4051	2.055	-4.708	8.160	-5.943
19		2013	3.49	2.429	26.6856	2.387	34.992	6.4860	2.646	1.132	0.741	-12.250
19		2014	3.66	2.324	26.6856	2.702	35.371	5.2793	2.317	-1.974	0.617	-9.532
19		2015	3.08	2.387	36.1352	2.569	44.172	4.0247	2.440	-0.234	7.084	-10.998
19		2016	3.45	2.429	24.8253	2.510	33.214	3.0002	2.502	1.132	-0.608	-11.937
19		2017	3.8	2.214	24.2152	2.827	33.055	2.2355	2.216	-4.019	-0.699	-7.405
19		2018	3.22	2.449	23.3096	2.168	31.147	3.0516	2.976	1.875	-1.764	-13.239
19		2019	3.39	2.258	18.2037	2.280	26.132	3.5051	2.793	-3.333	-3.962	-9.172
20	KPLC	2010	3.71	2.898	6.8305	2.074	15.512	3.4732	3.157	30.770	-25.077	-23.967
20		2011	3.81	2.470	25.7942	3.742	35.816	4.0351	1.745	2.658	0.101	-9.380
20		2012	3.8	2.145	45.5802	3.066	54.591	5.5088	2.055	-4.708	8.160	-5.943
20		2013	3.92	2.429	26.6856	2.387	35.422	4.5834	2.646	1.132	0.741	-12.250
20		2014	3.64	2.324	26.6856	2.702	35.351	5.6710	2.317	-1.974	0.617	-9.532
20		2015	3.16	2.387	36.1352	2.569	44.252	5.1248	2.440	-0.234	7.084	-10.998
20		2016	3.71	2.429	24.8253	2.510	33.474	3.2763	2.502	1.132	-0.608	-11.937

20		2017	3.65	2.214	24.2152	2.827	32.905	2.4857	2.216	-4.019	-0.699	-7.405
20		2018	3.38	2.449	23.3096	2.168	31.307	1.0769	2.976	1.875	-1.764	-13.239
20		2019	3.41	2.258	18.2037	2.280	26.152	1.2687	2.793	-3.333	-3.962	-9.172
21	CARBACID	2010	2.15	2.898	6.8305	2.074	13.952	6.9730	3.157	30.770	-25.077	-23.967
21		2011	2.06	2.470	25.7942	3.742	34.066	6.2829	1.745	2.658	0.101	-9.380
21		2012	2.11	2.145	45.5802	3.066	52.901	8.2769	2.055	-4.708	8.160	-5.943
21		2013	2.47	2.429	26.6856	2.387	33.972	8.1668	2.646	1.132	0.741	-12.250
21		2014	2.28	2.324	26.6856	2.702	33.991	4.9001	2.317	-1.974	0.617	-9.532
21		2015	2.21	2.387	36.1352	2.569	43.302	4.8632	2.440	-0.234	7.084	-10.998
21		2016	2.11	2.429	24.8253	2.510	31.874	4.8968	2.502	1.132	-0.608	-11.937
21		2017	2.34	2.214	24.2152	2.827	31.595	5.6366	2.216	-4.019	-0.699	-7.405
21		2018	2.25	2.449	23.3096	2.168	30.177	3.8326	2.976	1.875	-1.764	-13.239
21		2019	2.29	2.258	18.2037	2.280	25.032	3.9618	2.793	-3.333	-3.962	-9.172
22	TOTAL	2010	2.31	2.898	6.8305	2.074	14.112	5.7496	3.157	30.770	-25.077	-23.967
22		2011	2.35	2.470	25.7942	3.742	34.356	8.9973	1.745	2.658	0.101	-9.380
22		2012	2.29	2.145	45.5802	3.066	53.081	8.5290	2.055	-4.708	8.160	-5.943
22		2013	2.49	2.429	26.6856	2.387	33.992	5.3436	2.646	1.132	0.741	-12.250
22		2014	2.38	2.324	26.6856	2.702	34.091	6.3287	2.317	-1.974	0.617	-9.532
22		2015	2.49	2.387	36.1352	2.569	43.582	3.1002	2.440	-0.234	7.084	-10.998
22		2016	2.48	2.429	24.8253	2.510	32.244	4.8734	2.502	1.132	-0.608	-11.937
22		2017	2.49	2.214	24.2152	2.827	31.745	5.2164	2.216	-4.019	-0.699	-7.405
22		2018	2.47	2.449	23.3096	2.168	30.397	4.5740	2.976	1.875	-1.764	-13.239
22		2019	2.59	2.258	18.2037	2.280	25.332	5.1916	2.793	-3.333	-3.962	-9.172
23	BAT	2010	3.4	2.898	6.8305	2.074	15.202	7.0317	3.157	30.770	-25.077	-23.967
23		2011	3	2.470	25.7942	3.742	35.006	5.1917	1.745	2.658	0.101	-9.380
23		2012	3.05	2.145	45.5802	3.066	53.841	5.2857	2.055	-4.708	8.160	-5.943
23		2013	3.07	2.429	26.6856	2.387	34.572	5.6527	2.646	1.132	0.741	-12.250
23		2014	3.22	2.324	26.6856	2.702	34.931	5.9166	2.317	-1.974	0.617	-9.532
23		2015	2.72	2.387	36.1352	2.569	43.812	5.1707	2.440	-0.234	7.084	-10.998

23		2016	2.84	2.429	24.8253	2.510	32.604	5.1362	2.502	1.132	-0.608	-11.937
23		2017	2.85	2.214	24.2152	2.827	32.105	6.3329	2.216	-4.019	-0.699	-7.405
23		2018	2.89	2.449	23.3096	2.168	30.817	5.9442	2.976	1.875	-1.764	-13.239
23		2019	2.8	2.258	18.2037	2.280	25.542	11.8929	2.793	-3.333	-3.962	-9.172
24	CENTUM	2010	3	2.898	6.8305	2.074	14.802	3.4778	3.157	30.770	-25.077	-23.967
24		2011	4	2.470	25.7942	3.742	36.006	3.5302	1.745	2.658	0.101	-9.380
24		2012	2.77	2.145	45.5802	3.066	53.561	3.8245	2.055	-4.708	8.160	-5.943
24		2013	2.88	2.429	26.6856	2.387	34.382	4.2339	2.646	1.132	0.741	-12.250
24		2014	2.98	2.324	26.6856	2.702	34.691	6.7825	2.317	-1.974	0.617	-9.532
24		2015	2.9	2.387	36.1352	2.569	43.992	5.8587	2.440	-0.234	7.084	-10.998
24		2016	2.85	2.429	24.8253	2.510	32.614	6.9173	2.502	1.132	-0.608	-11.937
24		2017	2.87	2.214	24.2152	2.827	32.125	5.4682	2.216	-4.019	-0.699	-7.405
24		2018	3.11	2.449	23.3096	2.168	31.037	4.4492	2.976	1.875	-1.764	-13.239
24		2019	2.91	2.258	18.2037	2.280	25.652	5.3065	2.793	-3.333	-3.962	-9.172
25	EABL	2010	3.2	2.898	6.8305	2.074	15.002	7.4230	3.157	30.770	-25.077	-23.967
25		2011	3.6	2.470	25.7942	3.742	35.606	5.7738	1.745	2.658	0.101	-9.380
25		2012	3.67	2.145	45.5802	3.066	54.461	5.0535	2.055	-4.708	8.160	-5.943
25		2013	3.66	2.429	26.6856	2.387	35.162	5.9381	2.646	1.132	0.741	-12.250
25		2014	3.62	2.324	26.6856	2.702	35.331	7.9929	2.317	-1.974	0.617	-9.532
25		2015	3.25	2.387	1.1427	2.569	9.349	7.2464	2.440	-0.234	-16.590	-10.998
25		2016	3.58	2.429	24.8253	2.510	33.344	5.2547	2.502	1.132	-0.608	-11.937
25		2017	3.79	2.214	24.2152	2.827	33.045	6.0456	2.216	-4.019	-0.699	-7.405
25		2018	3.33	2.449	23.3096	2.168	31.257	6.1337	2.976	1.875	-1.764	-13.239
25		2019	2.84	2.258	18.2037	2.280	25.582	3.4269	2.793	-3.333	-3.962	-9.172
26	UNGA LTD	2010	2.58	2.898	6.8305	2.074	14.382	2.7444	3.157	30.770	-25.077	-23.967
26		2011	2.64	2.470	25.7942	3.742	34.646	1.6124	1.745	2.658	0.101	-9.380
26		2012	2.97	2.145	45.5802	3.066	53.761	2.6399	2.055	-4.708	8.160	-5.943
26		2013	2.73	2.429	26.6856	2.387	34.232	7.3435	2.646	1.132	0.741	-12.250
26		2014	2.82	2.324	26.6856	2.702	34.531	7.5542	2.317	-1.974	0.617	-9.532

26		2015	2.87	2.387	36.1352	2.569	43.962	5.2662	2.440	-0.234	7.084	-10.998
26		2016	2.77	2.429	24.8253	2.510	32.534	3.6545	2.502	1.132	-0.608	-11.937
26		2017	2.95	2.214	24.2152	2.827	32.205	5.7130	2.216	-4.019	-0.699	-7.405
26		2018	2.77	2.449	23.3096	2.168	30.697	5.0148	2.976	1.875	-1.764	-13.239
26		2019	2.98	2.258	18.2037	2.280	25.722	4.4210	2.793	-3.333	-3.962	-9.172
27	PORTLAND	2010	3.25	2.898	6.8305	2.074	15.052	4.8443	3.157	30.770	-25.077	-23.967
27		2011	3.17	2.470	25.7942	3.742	35.176	7.2761	1.745	2.658	0.101	-9.380
27		2012	3.455	2.145	45.5802	3.066	54.246	5.1806	2.055	-4.708	8.160	-5.943
27		2013	3.455	2.429	26.6856	2.387	34.957	7.1082	2.646	1.132	0.741	-12.250
27		2014	3.32	2.324	26.6856	2.702	35.031	4.7507	2.317	-1.974	0.617	-9.532
27		2015	3.32	2.387	36.1352	2.569	44.412	5.2135	2.440	-0.234	7.084	-10.998
27		2016	3.565	2.429	24.8253	2.510	33.329	3.8747	2.502	1.132	-0.608	-11.937
27		2017	3.585	2.214	24.2152	2.827	32.840	3.9431	2.216	-4.019	-0.699	-7.405
27		2018	3.255	2.449	23.3096	2.168	31.182	3.9252	2.976	1.875	-1.764	-13.239
27		2019	3.255	2.258	18.2037	2.280	25.997	2.3086	2.793	-3.333	-3.962	-9.172
28	BOC	2010	2.4	2.898	6.8305	2.074	14.202	6.2661	3.157	30.770	-25.077	-23.967
28		2011	2.28	2.470	25.7942	3.742	34.286	3.7976	1.745	2.658	0.101	-9.380
28		2012	2.69	2.145	45.5802	3.066	53.481	6.2049	2.055	-4.708	8.160	-5.943
28		2013	2.45	2.429	26.6856	2.387	33.952	7.1563	2.646	1.132	0.741	-12.250
28		2014	2.38	2.324	26.6856	2.702	34.091	5.1340	2.317	-1.974	0.617	-9.532
28		2015	2.69	2.387	36.1352	2.569	43.782	2.8543	2.440	-0.234	7.084	-10.998
28		2016	3.18	2.429	24.8253	2.510	32.944	4.5099	2.502	1.132	-0.608	-11.937
28		2017	3	2.214	24.2152	2.827	32.255	1.3866	2.216	-4.019	-0.699	-7.405
28		2018	2.77	2.449	23.3096	2.168	30.697	6.3367	2.976	1.875	-1.764	-13.239
28		2019	2.95	2.258	18.2037	2.280	25.692	3.9071	2.793	-3.333	-3.962	-9.172
29	SAFCOM	2010	3.25	2.898	6.8305	2.074	15.052	2.7118	3.157	30.770	-25.077	-23.967
29		2011	3.27	2.470	25.7942	3.742	35.276	2.8463	1.745	2.658	0.101	-9.380
29		2012	3.47	2.145	45.5802	3.066	54.261	7.9937	2.055	-4.708	8.160	-5.943
29		2013	3.32	2.429	26.6856	2.387	34.822	3.5366	2.646	1.132	0.741	-12.250

29		2014	3.9	2.324	26.6856	2.702	35.611	7.6870	2.317	-1.974	0.617	-9.532
29		2015	3.9	2.387	36.1352	2.569	44.992	4.4381	2.440	-0.234	7.084	-10.998
29		2016	3.59	2.429	24.8253	2.510	33.354	5.8753	2.502	1.132	-0.608	-11.937
29		2017	3.51	2.214	24.2152	2.827	32.765	3.7532	2.216	-4.019	-0.699	-7.405
29		2018	3.11	2.449	23.3096	2.168	31.037	7.3728	2.976	1.875	-1.764	-13.239
29		2019	3.31	2.258	18.2037	2.280	26.052	5.1966	2.793	-3.333	-3.962	-9.172

Source: Author 2021

APPENDIX H

FAMA AND FRENCH THREE FACTOR VALUES

YR/Month	Mkt-RF	SMB	HML	RF
201001	-3.36	0.38	0.3	0
201002	3.4	1.21	3.16	0
201003	6.31	1.43	2.11	0.01
201004	2	4.97	2.81	0.01
201005	-7.89	0.05	-2.38	0.01
201006	-5.56	-1.97	-4.5	0.01
201007	6.93	0.17	-0.26	0.01
201008	-4.77	-3	-1.95	0.01
201009	9.54	3.92	-3.13	0.01
201010	3.88	1.13	-2.6	0.01
201011	0.6	3.7	-0.9	0.01
201012	6.82	0.69	3.82	0.01
201101	1.99	-2.47	0.82	0.01
201102	3.49	1.53	1.1	0.01
201103	0.45	2.6	-1.58	0.01
201104	2.9	-0.34	-2.52	0
201105	-1.27	-0.7	-2.08	0
201106	-1.75	-0.16	-0.32	0
201107	-2.36	-1.35	-1.21	0
201108	-5.99	-3.05	-2.48	0.01
201109	-7.59	-3.53	-1.41	0
201110	11.35	3.42	-0.18	0
201111	-0.28	-0.17	-0.34	0
201112	0.74	-0.7	1.77	0
201201	5.05	2.15	-1.13	0
201202	4.42	-1.75	0.08	0
201203	3.11	-0.62	0.92	0
201204	-0.85	-0.52	-0.48	0
201205	-6.19	0	-0.59	0.01
201206	3.89	0.76	0.44	0
201207	0.79	-2.61	-0.27	0
201208	2.55	0.4	1.31	0.01
201209	2.73	0.49	1.53	0.01
201210	-1.76	-1.15	3.79	0.01
201211	0.78	0.59	-0.97	0.01
201212	1.18	1.48	3.58	0.01
201301	5.57	0.39	0.95	0
201302	1.29	-0.45	0.03	0
201303	4.03	0.81	-0.3	0

201304	1.55	-2.42	0.62	0
201305	2.8	1.66	2.6	0
201306	-1.2	1.17	-0.17	0
201307	5.65	1.86	0.56	0
201308	-2.71	0.31	-2.78	0
201309	3.77	2.92	-1.19	0
201310	4.18	-1.51	1.14	0
201311	3.12	1.22	0.24	0
201312	2.81	-0.5	-0.31	0
201401	-3.32	0.85	-2.09	0
201402	4.65	0.34	-0.4	0
201403	0.43	-1.89	5.09	0
201404	-0.19	-4.24	1.14	0
201405	2.06	-1.86	-0.27	0
201406	2.61	3.08	-0.74	0
201407	-2.04	-4.25	0.01	0
201408	4.24	0.36	-0.59	0
201409	-1.97	-3.83	-1.23	0
201410	2.52	4.21	-1.7	0
201411	2.55	-2.09	-3	0
201412	-0.06	2.55	2.06	0
201501	-3.11	-0.56	-3.48	0
201502	6.13	0.49	-1.81	0
201503	-1.12	3.03	-0.46	0
201504	0.59	-2.98	1.85	0
201505	1.36	0.87	-1.37	0
201506	-1.53	2.83	-0.79	0
201507	1.54	-4.15	-4.12	0
201508	-6.04	0.49	2.66	0
201509	-3.08	-2.64	0.53	0
201510	7.75	-1.97	-0.07	0
201511	0.56	3.64	-0.51	0
201512	-2.17	-2.83	-2.59	0.01
201601	-5.77	-3.35	2.08	0.01
201602	-0.07	0.79	-0.5	0.02
201603	6.96	0.87	1.16	0.02
201604	0.92	0.69	3.26	0.01
201605	1.78	-0.27	-1.81	0.01
201606	-0.05	0.65	-1.47	0.02
201607	3.95	2.64	-1.11	0.02
201608	0.5	1.16	3.34	0.02
201609	0.25	2.02	-1.49	0.02
201610	-2.02	-4.39	4.16	0.02
201611	4.86	5.47	8.29	0.01

201612	1.82	0.1	3.58	0.03
201701	1.94	-1.04	-2.78	0.04
201702	3.57	-2.02	-1.79	0.04
201703	0.17	1.2	-3.17	0.03
201704	1.09	0.71	-1.87	0.05
201705	1.06	-2.54	-3.78	0.06
201706	0.78	2.17	1.35	0.06
201707	1.87	-1.41	-0.29	0.07
201708	0.16	-1.67	-2.24	0.09
201709	2.51	4.55	3.03	0.09
201710	2.25	-1.94	-0.05	0.09
201711	3.12	-0.65	-0.04	0.08
201712	1.06	-1.28	0.14	0.09
201801	5.58	-3.03	-1.37	0.11
201802	-3.65	0.26	-1.19	0.11
201803	-2.35	3.95	-0.12	0.12
201804	0.29	1.12	0.54	0.14
201805	2.65	5.23	-3.16	0.14
201806	0.48	1.18	-2.38	0.14
201807	3.19	-2.17	0.43	0.16
201808	3.44	1.15	-4.08	0.16
201809	0.06	-2.37	-1.3	0.15
201810	-7.68	-4.76	3.44	0.19
201811	1.69	-0.79	0.25	0.18
201812	-9.55	-2.63	-1.47	0.19
201901	8.41	3.01	-0.62	0.21
201902	3.4	2.06	-2.84	0.18
201903	1.1	-3.13	-4.07	0.19
201904	3.96	-1.68	1.93	0.21
201905	-6.94	-1.2	-2.39	0.21
201906	6.93	0.34	-1.08	0.18
201907	1.19	-2.07	0.14	0.19
201908	-2.58	-2.41	-4.99	0.16
201909	1.44	-0.9	6.71	0.18
201910	2.06	0.25	-2.07	0.15
201911	3.87	0.87	-1.86	0.12
201912	2.77	0.68	1.83	0.14

Source (2021 Kenneth R. French Web site)

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