The Relationship between Corporate Governance, Financial Characteristics, Macroeconomic Factors and Performance of Firms Listed at the Nairobi Securities Exchange

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Abstract

This study sought to examine the relationships among corporate governance, financial characteristics, macroeconomic factors and performance of firms listed at the Nairobi Securities Exchange. This study used wealth maximisation theory, agency theory, stewardship theory and stakeholders' theory to explain the relationships among dependent, intervening, moderating and independent variables. This study employed a census approach and a target population of the study comprised of all companies listed at the Nairobi Securities Exchange from 2002 to 2016. A total of sixty five were used. The data on corporate governance, financial characteristics and performance of firms were extracted from annual reports of the individuals firms and additional data on macroeconomic factors in relation to gross domestic product, interest rates and inflation rates were extracted from Central Bank of Kenya and Kenya National Bureau of Statistics economic reports. This study employed longitudinal descriptive research design to determine relationships amongst variables. A panel data regression analysis was conducted using random effects model which allowed the firms to have a common mean value of the intercept to determine whether corporate governance influence firm performance. The study established that most of the corporate governance practices adopted by listed firms in Kenya had significant effect of the performance of firms. The intervening effect of financial characteristics was determined, while macroeconomic factors were found to have moderating effect in the relationship between corporate governance and performance of listed firms. The study finally established that corporate governance, financial characteristics and macroeconomic factors

had a significant joint effect on performance of firms listed on Nairobi Securities Exchange. Based on the findings the study made various conclusions. The study concluded that listed firms in Kenya adopted corporate governance practices as part of the requirements of the regulating authority which had impact on Returns of Assets and Tobin's Q. The study further concluded that some listed firms in Kenya strengthened their corporate governance due to poor performance; some of the corporate governance practices used by listed firms had negative impact on performance of firms. This study contributed to the existing knowledge since it established that the relationship between corporate governance and firm performance heavily relied on the context under study and for this reason, studies conducted in different context have conflicting results.

Keywords: Corporate Governance, Financial Characteristics, Macroeconomic Factors, Performance of Firms, Returns of Assets and Tobin's Q

Introduction

The relationship between corporate governance and financial performance, which is one of the most appealing and controversial issues, has received a lot of attention from many scholars from different countries all over the world (Makini, Awino, Ogolla & Magutu, 2020). Firms practicing good corporate governance normally have good firm performance, and this is further influenced by financial characteristics and macroeconomic factors (Mureithi, Mukhongo, & Datche, 2019). Financial characteristics usually intervene in relationship between corporate governance and firm performance. Financial characteristics such as investments, leverage and liquidity are expected to have a positive impact on firm performance. Increase in investment implies that firms have identified lucrative opportunities that they seek to exploit which plays a critical role in the use of leverage (Lin & Lin, 2018). Macroeconomic factors universally influence firms' performance in an economy and have moderating effect on the relationship between corporate governance and firm performance (Ghabayen, 2012; Bokhari, Suleman, Ghumman & Hafeez, 2019). The above conceptualization on the relationship between corporate governance, financial characteristics, macroeconomic factors and firm performance is explained by Wealth Maximization theory, Agency theory, Stewardship theory and Stakeholders' theory.

Corporate governance can be defined as the way power is exercised over corporate entities. It consists of the board structure of the enterprise and its' relationship with the shareholders, the managers, and other legitimate stakeholders. It is a mixture of policies and best practices used by firms to achieve their goals in relation to their shareholders (Tricker & Tricker,

2018).Corporate governance policies and practices used in this study included: board composition which comprises both executive and non-executive directors, gender and ethnicity, board skills, experience and occupational expertise, board age, board size, board tenure, board tools, board ownership, board meetings and Board compensation,

Financial characteristics are internal financial factors of a firm that are expected to have effect on its efficiency and level of performance. The financial characteristics used in this study are: investment, leverage and liquidity because of their direct influence to performance of firms. Investment refers to the sacrifice of current cash flows for future cash flows. It involves time, risk and returns since the sacrifice takes place in the present, and is certain, while returns come later, and are uncertain. Leverage is the benefit accruing to the firm as a result of using fixed interest cost securities. Liquidity deals with ability of the firm to use current assets to pay current obligations (Brigham & Davis, 2018).

Macroeconomic factors are general economic factors having universal effect on a nation or a region and affect a large population. Macroeconomic factors impact on performance of all firms in an economy. The macroeconomic factors for this study will include Gross Domestic Product (GDP), interest rate and inflation rate. GDP is a measure for all finished goods and services produced in a country for a specific fiscal year. GDP is equal to total investment, consumption, government spending, and exports less value of imports (Kosgei & Rono, 2018).

Firm performance is a measure of overall well-being of a firm in terms of wealth creation over a given period of time. It measures how a firm can use investment in long and short term assets to create revenues. Measures of firm performance can further be achieved using either accounting or market metrics with different theoretical foundation. Each of the two metrics has specific predispositions. Firm performance measures can be established on book value or market value. In this study Return on Assets (ROA) and Tobin's Q were used as measures of firm performance. ROA is a main ratio of firm performance of profitability. (Saseela, 2018).

Nairobi Securities Exchange is the main stock market in Kenya having different platforms for the listing and multiple securities trading. The market has an obligation to guarantee effective trading in securities and derivatives and enhances economic development. Several guidelines have been developed by the Capital Markets Authority to encourage good practices in corporate governance by the listed public companies in Kenya to adequately respond to the increasing relevance of the governance, promotion of regional and domestic growth of the capital markets. It also involves in the mobilisation of funds in investment and hedge against financial risks. The justification of using Nairobi Securities Exchange is that it acts as the economic barometer of

the country and to abide by minimum codes of good corporate governance guidelines (CMA, 2015; NSE, 2016).

Problem Statement

Contentious proposals by many researchers on the relationship between corporate governance and firm performance remained unsettled for a long time. Great corporate failures around the world in recent years have complicated the problem. Most studies have been carried to examine the relationship between corporate governance and firm performance and the outcomes have remained conflicting. Some studies established positive significant relationship between corporate governance and firm performance (Michelberger, 2017; Ibe, Ugwuanyi & Okanya, 2017; Saseela, 2018; Omware, Atheru, & Jagongo, 2020; Makini, Awino, Ogolla & Magutu, 2020). Other studies did not establish any significant relationship between corporate governance and firm performance (Dash & Raithatha, 2019; Adebayo, Ojeka, Adegboye, Ebuzor & Samson, 2019). There are many conceptual gaps in these studies; most studies tested the simple direct relationship between corporate governance and firm performance. Several studies used different variables of corporate governance to establish the relationship between corporate and firm performance.

These studies have diverse conceptualization, theorization and contextualization giving different results on the relationship between corporate governance and performance of firms. To solve these conceptual, contextual and methodological gaps, this study used descriptive and longitudinal research designs and multiple regression models to determine simple relationship between corporate governance and firm performance; intervening relationship of financial characteristics on the relationship between corporate governance and firm performance; moderating relationship of macroeconomic factors on the relationship between corporate governance and firm performance; and the overall effect among corporate governance, financial characteristics, macroeconomic factors and firm performance. To achieve these objectives of this study, the study was directed by the following research question: What are the relationships among corporate governance, financial characteristics, macroeconomic factors and performance of firms listed at the Nairobi Securities Exchange?

Literature Review

Theoretical Foundation

Wealth maximization theory was developed by Ponser (1983). According to the proponents of this theory, the immediate operating goal and the ultimate purpose of a public corporation is and should be to maximize return on equity capital. Windsor and Boatright (2010) as proponents of

shareholder wealth maximization argue that the theory focuses on the motives and behaviors of financial stakeholders. Shareholder wealth maximization theory has wide application in today firms. Jones and Felps (2013) have linked shareholder wealth maximization and social welfare among firms in UK.

Agency theory was developed by Jensen and Meckling (1976). The theory is grounded on the separation of ownership and relationship between principals and agents. It is based on short term gains where principals delegate decision making authority to their agents; who are to use resources given by the principals to enhance principals' benefits. Agents however, may commit moral hazard by substituting principals' interest with their own. Principals normally monitor the activities of agents to ensure that they act on the interest of the firms. Monitoring costs are normally expensive and adversely affect the principals' income (Fama & Jensen, 1983).

Stewardship theory was developed by Donaldson and Davis (1997). The theory was an innovative view in understanding relationship between ownership and management of a firm from the Agency Theory. Directors are stewards making decisions for long term survival of firms as well as maximize shareholders' wealth. Directors normally perceive firms as an extension of them, rather than use their resources for own interest; the executives main interest is ensuring the sustained life and success of the firm. The theory is based on the duties of executives acting as stewards, integrating their goals as part of the firm and recognizes the importance of structures that empower the steward and offers maximum autonomy built on trust (Donaldson & Davis, 1991).

Stakeholder theory was developed by Freeman (1984). The theory takes into account diverse intrinsic interest of all stakeholders of the firm. Stakeholders are individuals or groups who can affect or are affected by the achievement of the firm's objectives. The theory suggests that directors of a firm have interests of different stakeholders to serve. It is important for directors not to have preference in a group of network they serve in administering the activities of the firm and the moral perspective of the theory is that all stakeholders have a right to be treated fairly as this leads to a better firm performance (Freeman, 1999).

Empirical Review

Makini, Awino, Ogolla and Magutu (2020) studied corporate Governance and performance of companies listed at Nairobi Securities Exchange: The role of top management team characteristics. The study used cross sectional survey. The target population 66 firms listed at the Nairobi Securities Exchange were drawn. The study used both primary and secondary data which were collected using questionnaires, interviews and desk review. Descriptive statistics level and inferential statistics were used and found that

top management team characteristics (education, functional background and work experience) significantly moderate the relationship between corporate governance and firm performance among companies listed in NSE. This used top management team variables which is a small component of corporate governance. This study used many variables of board structure and board activities to determine the relationship between corporate governance and performance of listed firms in Kenya.

Omware, Atheru, and Jagongo (2020) studied corporate governance and financial performance of selected commercial banks listed at Nairobi Securities Exchange in Kenya. The study incorporated board size, board independence, level of education of board members, ethnic composition and gender diversity of board members as mechanism of corporate governance; and Return on equity, Return on asset and Net interest margin as measures of performance. A cross sectional and analytical research design; a population of 11 commercial banks purposive sampling was used to obtain sample representation of the entire population. Multiple regression analysis was used to determine the relationship between corporate governance and firm performance and result revealed that size of the board, board independence, level of education of board members, gender diversity, and ethnic composition positively influence the financial performance of commercial banks listed in Kenya. The study was for only one section of market; used purposive sampling when the target population is only 11 banks; and cross sectional study means only five questionnaires were analysed. This study used all 65 firms listed at NSE for a long period of time from year 2002 to 2016.

Adebayo, Ojeka, Adegboye, Ebuzor and Samson (2019). Studied Firm performance and condensed corporate governance mechanism using a sample of twenty-four (24) financial companies from the listed financial institutions in Nigeria for the period of 2013–2017. The study formulated hypotheses and then employed static panel data estimators that are Fixed effect and Random Effect Regression models. The results reveal that while controlling for firms' characteristics, constructed corporate governance indicator has a significant and negative influence on the firm performance measured by Return on Asset and Return on Equity. The finding further supports that larger board; larger board committees and significant executive involvement have a detrimental influence on the performance of firms. The study then recommends that the corporate governance structure in Nigeria listed firms should be reviewed with the intention to enhance the firm performance. The study used was for a given sector of the economic and did not incorporate intervening and moderating variables. This study includes both intervening and moderating variables in the determining the relationship between corporate governance and firm performance.

Dash and Raithatha (2019) examined the impact of corporate governance on firm performance and stock return behaviour using panel data for Indian listed firms from 2006 to 2015 and found that corporate governance improves firm performance. However, corporate governance information fails to provide excess risk-adjusted returns to investors, as governance information is well assimilated in prevailing stock prices. The study is for long period of time good for regression results; however the mechanisms of corporate governance and measures of firm performance are not stated. This is also a longitudinal study from 2002 incorporating a number of corporate governance mechanism, financial characteristics, macroeconomic factors and firm performance for listed firms in Kenya.

Atosh and Iraya (2018) examined effect of corporate governance practices on financial distress among listed firms at Nairobi Securities Exchange. The study employed a descriptive research design and target population of the study was the listed firms at the NSE by the year ending December 2016. The study used the Altman Z score model and ordinary least square regression model and found that the study established that net profit has a negative significant effect on financial distress, management concentration and financial distress are negatively and significantly related, non-executive board members has a negative and significant effect on financial distress and board size has a positive and significant effect on financial distress and board diversity has a positive but not significant effect on financial distress and capital structure on the other hand has a positive but insignificant effect on financial distress of firms. The study did not indicate the period of study; however it is in the same context with this study.

Saseela (2018) investigated the impact of corporate governance on firm performance of listed companies in Sri Lanka. Fifty listed companies were selected as a sample by using proportion random sampling method. Secondary data were collected from the annual report of listed from 2010 to 2015. This study considered the corporate governance which is measured by board size, board independence, CEO duality, director's ownership and audit committee as the independent variable while firm performance which is measured by ROA and Tobin's Q as a dependent variable. Multiple regressions and Pearson's correlation analyses were employed as the main tool of analysing data. The found that board size and audit committee have significant impact on ROA and board size has significant impact on Tobin's Q, whereas board independence, CEO duality and director's ownership have insignificant impact on both firm performance measures such as ROA and Tobin's Q. Board size and audit committee have negative relationship with firm performance. The study is for a short period of 2010 to 2015, but used a good number of corporate governance characteristics and two measures of financial performance. This study also uses many corporate governance

variables, the same measures of financial performance, intervening and moderating variables.

Lin and Lin (2018) examined the effect of free cash flows on the relationship between corporate governance and firm performance. A sample firms are extracted from firms listed on the S&P/TSX composite index Canada between 2009 and 2012, using corporate governance scores provided by The Globe and Mail, this study found that better corporate governance is associated with better firm performance, measured by return on equity and importance of corporate governance in protecting shareholders' interests. The study did not indicate the result of free cash flows as an intervening variable in the relationship between corporate governance and firm performance. This study used firm investment, leverage and liquidity as intervening variables in the relationship between corporate governance and firm performance; and descriptive analyses and panel data regression in analysing the relationship between corporate governance and performance of firms listed in the NSE from 2002-2016.

Research Methodology

This study was based on positivism philosophy since the study involved construction of hypotheses based on empirical and theoretical literature which were tested using statistical analysis of quantitative data. Positivism relies more on quantitative measurement that involves testing the hypothesis. This study employed longitudinal descriptive research design to determine relationships amongst independent, intervening, moderating and dependent variables. A longitudinal research design involves repeated observations of the same variables over long periods of time without external influenced being applied. The design allowed researcher to distinguish between short and long-term phenomena, such as performance of firms. This study used a census approach and a target population of the study comprised of all companies listed at the NSE from year 2002 to 2016. The sixty five companies were screened against various factors which included availability of data for the period under review and the integrity of data. The data extracted from annual reports included: executive directors, number of non-executive directors, foreign directors, women directors, directors' expertise, board age, board size, board tenure, board ownership, board tools, board meetings, board committees, committees' meetings and board remuneration. The data extracted from published financial statements NSE annual hand books included: investments, leverage, liquidity, ROA and Tobin's Q and additional data on macroeconomic factors in relation to GDP, interest rates and inflation rates were extracted from CBK and KNBS economic reports.

This study used descriptive analyses and panel data regression in analyzing the relationship between corporate governance and performance of

agricultural firms listed at the NSE. Descriptive analyses were carried out to measure central tendencies and dispersion of variables and coefficient of variation was used to disclose the volatility in relationships of the variables under study. A panel data regression analysis was conducted using random effects model which allowed listed firms to have a common mean value of the intercept to determine whether corporate governance influence performance of listed firms. Coefficient of Determination (R^2) and p-values were used to interpret the regression functions at a level of significance of 0.05 (Bryman & Cramer, 2002). The respective individual regression coefficients were also tested for their statistical significance using the t-test. Simple regression model was used to test four hypotheses. In this study, it was necessary to ensure no violation of the assumptions of the Classical Linear Regression Model (CLRM) before using the multiple linear regression models and the following diagnostic tests were necessary: autocorrelation, stationarity, multicollinearity, and heteroscedasticity. Following Agrawal and Knoeber (1996) model, a system of simultaneous equations are developed and modified for objectives and hypotheses of the study, where performance of firms measured by ROA and Tobin's Q is regressed on corporate governance, financial characteristics and macroeconomic factors. Null hypotheses were rejected when calculated p-values exceeded 0.05.

Relationship between Corporate Governance and Firm Performance: Simple regression model were used to test hypothesis one: Relationship between Corporate Governance (CG) and Firm Performance (FP).

$FP_{it} = \beta_0 + \beta_1 CG_{it} + \acute{\varepsilon}_{it}$ ..... Equation 1.

Relationship among Corporate Governance, Financial Characteristics and Firm Performance: Stepwise regression model was used to determine these relationships. The following models were used to test hypothesis two. This was achieved by determining the intermediating effect of firm characteristics by relying on four steps of statistical analysis (Baron & Kenny, 1986).

Step one: Relationship between Corporate Governance (CG) and Firm Performance (FP) holding Firm Characteristics (FC) constant.

$FP_{it} = \beta_0 + \beta_1 CG_{it} + \acute{\varepsilon}_{it}$ ..... Equation2 (a).

Step two: Relationship between Corporate Governance (CG) and Financial characteristics (FC), holding Firm Performance (FP) constant.

$FC_{it} = \beta_0 + \beta_2 CG_{it} + \acute{\varepsilon}_{it}$ ..... Equation2 (b).

Step three: Relationship between and Financial Characteristics (FC) and Firm Performance (FP), holding Corporate Governance (CG) constant.

$FP_{it} = \beta_0 + \beta_3 FC_{it} + \acute{\varepsilon}_{it\,t}$ ..... Equation2 (c).

Step four: Intermediation among Corporate Governance (CG), Financial Characteristics (FC) and Firm Performance (FP).

$FP_{it} = \beta_0 + \beta_4 CG_{it} + \beta_5 FC_{it} + \acute{\varepsilon}_{it}$ .....Equation2 (d).

Relationship among Corporate governance, Macroeconomic Factors and Firm Performance: Multiple regression models were used to determine these relationships. The following model was used to test hypothesis three. This was achieved by determining the moderating effect of

$FP_{it} = \beta_0 + \beta_1 CG_{it} + \beta_2 GDP_{it} + \beta_3 INF_{it} + \beta_4 INR_{it} + \beta_5 GDP_{it} * CG + \beta_6 INF_{it} * CG + \beta_7 INR_{it} * CG + \acute{\varepsilon}_{it}$ .....Equation 3.

Relationship among Corporate governance, Financial Characteristics, Macroeconomic Factors and Firm Performance: Panel data regression model of random effects was used to determine the relationship among Corporate Governance (CG), Financial Characteristics (FC), Macroeconomic Factors (MF) and Firm Performance (FP). These models were used to test hypothesis four, the joint effect:

$FP_{it} = \beta_0 + \beta_1 CG_{it} + \beta_2 FC_{it-1} + \beta_3 MF_{it-1} + c_i + \acute{\varepsilon}_{it}$.....Equation 4.

Where for all the relationships: FP_{ij} is Performance of Firms; CG is Corporate Governance; FC is Financial Characteristics; MF is Macroeconomic Factors; c_i unobserved variable; β_0 is the intercept; β_1, β_2, and β_3 are regression coefficients for Corporate Governance, Financial Characteristics and Macroeconomic Factors for firm i in time t; and is error term. The study's null hypotheses were rejected when calculated p-values exceeded 0.05 significance level adopted by the study (Bokhari, Suleman, Ghumman & Hafeez, 2019).

Results and Discussions

Descriptive Statistics of the Study Variables

Table 1 shows that listed firms in Kenya had varying board structure for instance some firms had high number of executive directors than others as shown by the maximum value of executive director of 5 however, majority of the firms had an average of 2 executive directors while others had none as shown by the minimum value of 0. The findings also revealed that non-executive directors were more compared to executive directors since the mean of non-executive director was 6 with the maximum being 15. The standard deviation of 2.604 implied that the variation in non-executive directors across listed firms was large. The findings further indicated that listed firms in Kenya had an average of 2 foreign directors with some having a maximum of 9 foreign directors. The results also exhibited that the number of women directors in listed firms in Kenya is still very low as shown by the mean of 1 implying that majority of the listed firms had just 1 woman directors however

some firms had many women directors to about 6 in their board. The study also showed that directors in listed firms in Kenya had adequate occupational expertise as shown by mean of 5 years of experience. The minimum age of the board members was 37 while the maximum was 74 with an average of 55. The firm with lean board size was 2 while that with the largest board size was 16 with the mean being 8. These findings showed that listed firms in Kenya had varying board structure some firms had extensive board structure while others had lean board structure.

The study further sought to analyse the board policies of listed firm in Kenya. Among the board policies that the study focused on include board tenure. The descriptive results on board tenure among listed firms in Kenya showed that majority of the firms had board tenure of 3 years as shown by the mean board tenure. However, some firms had extended board tenure for 10 years while others had shorter tenure of 2 years as shown by the maximum and minimum values. The percentage of board ownership was still very low at an average of 8% while the firms with highest board ownership was at 78%, other firms had zero board ownership as shown by the minimum value of 0. The study further sought to establish the number of aids (board tools) used by board members in listed firms. The results showed that majority of the board members had 3 aids while the maximum had 5, in other firms there were no aids for the board members. The findings on board meetings indicated that the average number of meeting held by boards in listed firms per year was 5 however; the results revealed that some listed firms had a maximum of 39 board meetings annually. The standard deviation of 3 indicated that the variance in number of board meeting was large. On the number of board committees, the study revealed that the average number of board committees was 3, but the maximum and minimum values of 9 and 0 respectively indicated that some firms had more board committees compared to others. Similarly, the study revealed that some listed firms had many annual committee meetings compared to other listed firms. Firms with the highest committee meetings had 86 meetings but the average was 12 committee meetings. These results also show that listed firms had varying board activities which implied that corporate governance in listed firms varied from one firm to another.

The descriptive statistics for financial characteristics further showed that different firms had different financial characteristics (investment, liquidity and leverage). The results reveal that some firms had high investments as shown by average ratio of total long term assets to total asset of 0.216542 while others had as low as 0.0384 implying that they had poor long term investments. The results also presented that some firms were highly leveraged compared to others. The firms with the highest total debts to total assets ratio had 30.0263 implying their debts was higher than their total assets while the mean was 0.990952. Other firms had fewer debts compared to totals

assets as shown by minimum leverage of 1.644 which indicated that the total debts were negative. On liquidity, the results showed that some firms had more working capital compared to others. The standard deviation of 0.232122 indicates that working capital to totals assets varied largely form one firm to another.

The descriptive statistics of macroeconomic variables also revealed that the period of study experienced varying economic conditions. The maximum and minimum GDP growth rate was 8.4% and 0.2% respectively. The average GDP growth rate was 4.8%. Inflation rate also varied during the study period from a maximum of 15.2% to a minimum of 0.9%; however the average inflation rate was 7.2%. The trend in the interest rate also showed that the highest interest rate was 19.8533% while the lowest was 12.25%. The results revealed that there was a high volatility in macroeconomic environment during the period of the study. The descriptive results for performance of firms' indicators also showed ROA for listed firms varied significantly from one company to another. The average ROA for all the listed firms was about 0.14883 while better performing firms had a ROA of 1.798 and worst performing firms had a ROA of -1.382. These statistics were also similar for Tobin Q where some firms had a high firm value of 6.7098 with those poor performers having a Tobin's Q of -1.7528 however, the industry average was 1.390516. This was a clear indication that listed firms performed differently during the study period with some firms recording high performance while others recording very poor performance.

Table 1: Descriptive Statistics of Study Variables

Variable	Indicators	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis
Board Structure	Executive Director	0	5	1.66	0.858	0.978	0.648
	Non-Executive Director	1	15	6.6	2.604	0.156	0.282
	Foreign Director	0	9	2.17	2.003	0.767	-0.17
	Women Director	0	6	1.13	1.232	0.907	0.034
	Occupational Expertise	1	15	5.97	2.059	0.486	0.914
	Board Age	37	74	55.09	4.843	0.361	1.387
	Board Size	2	16	8.24	2.491	0.068	-0.054
Board Activities	Board Tenure	1	10	2.8	1.07	1.65	12.933
	Board Ownership	0	0.78	0.0846	0.17669	2.332	4.543
	Board Tools	0	5	3.16	0.768	-1.402	4.098
	Board Meetings	0	39	5.52	3.709	3.776	20.893
	No Board Committees	0	9	3.18	1.645	0.605	0.379
	Committees Meetings	0	86	12.27	10.575	2.391	9.26

Variable	Indicators	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis
	Board Remuneration (KES 000)	18	9936000	119037.3	673428.1	12.736	168.083
Financial Characteristics	Investments	0.0384	0.9959	0.635807	0.216542	-0.574	-0.648
	Leverage	-7.0819	30.0263	0.990952	1.661592	8.677	134.265
	Liquidity	-1.2794	0.88	0.202459	0.232122	-0.665	3.538
Macroeconomic variables	GDP Growth Rate	0.2	8.4	4.873333	2.192211	-0.858	0.043
	Interest Rate	12.25	19.8533	15.06825	2.248712	0.821	-0.706
	Inflation Rate	0.9	15.2	7.421333	3.485355	0.21	0.089
Performance of firm	ROA	-1.382	1.798	0.14883	0.235928	-0.03	8.49
	Tobin's Q	-1.7528	6.7098	1.390516	0.938131	2.148	5.377

Correlation Analyses

Corporate Governance Variables and Performance of firms

Table 2 reveals that board independence had negative relationship with both ROA and Tobin's Q. However, only the association between board independence and Tobin's Q was weak, negative and significant (r=-0.179, p=0.000). Board gender diversity had weak, negative association with ROA (r=-0.127, p=0.000) while the association between gender diversity and Tobin's Q was insignificant. The findings also revealed that board occupational expertise had a weak, positive and significant association with both ROA (r=0.141, p=0.000) and Tobin's Q (r=0.122, p=0.000). The findings implied that increasing board occupational expertise would results to increase in both ROA and Tobin's Q. The findings further revealed that board age and size were insignificantly associated to both ROA and Tobin's Q.

Table 2: Board Structure Variables and Performance of Firms Variables

		Board Independence	Gender Diversity	Occupational Expertise	Board Age	Board Size	ROA	Tobin's Q
Board Independence	r	1						
Board independence	r	.105**	1					
Occupational Expertise	r	.449**	.142**	1				
Board Age	r	.139**	-.096**	.076*	1			
Board Size	r	.526**	.159**	.835**	0.03	1		
ROA	r	-0.066	-.127**	.141**	0.033	0.041	1	
Tobin's Q	r	-.179**	-0.02	.122**	-0.05	0.059	.402**	1

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

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

Table 3 shows that board tenure (r=-0.092, p=0.012), board ownership (r=-0.121, p=0.001) and committee meetings (r=-0.086, p=0.019) had weak, negative and significant association with ROA. The findings implied that

increasing these variables would results to reduction in ROA. Number of board committees, board remuneration and board tools were insignificantly associated to ROA. Similarly, the correlation results showed that board ownership (r=-0.131, p=0.000), number of board committees (r=-0.101, p=0.006) and committee meetings (r=-0.112, p=0.002) had weak, negative and significant association with Tobin's Q. The findings also implied that increasing these variables would results to reduction in Tobin's Q. Board tenure and board remuneration were insignificantly associated to Tobin's Q.

Table 3: Board Activities Variables and Performance of Firms Variables

		Board Tenure	Board Ownership	Board Tools	Board Meetings	Number Board Committees	Committees Meetings	Board Remuneration	ROA	Tobin' Q
Board Tenure	r	1								
Board Ownership	r	-0.049	1							
Board Tools	r	-.238**	.127**	1						
Board Meetings	r	0.002	.528**	.249**	1					
Number Board Committees	r	-.079*	.242**	.329**	.457**	1				
Committees Meetings	r	0.023	.340**	.226**	.663**	.808**	1			
Board Remuneration	r	-0.016	-0.014	0.062	-0.008	-0.024	-0.046	1		
ROA	r	-.092*	-.121**	0.062	-.134**	-0.035	-.086*	0.059	1	
Tobin's Q	r	-0.021	-.131**	-.232**	-.184**	-.101**	-.112**	0.022	.402**	1

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

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

Financial Characteristics Variables and Performance of Firms Variables

Table 4 shows that investment (r=-0.197, p=0.000), leverage (r=-0.24, p=0.000) and liquidity (r=0.273, p=0.000) were significantly associated to ROA of listed firms in Kenya. The association between firm investment, firm leverage and ROA was negative. The correlation results further showed that investment (r=-0.212, p=0.000) and leverage (r=-0.19, p=0.000) were negatively and significantly associated to Tobin's Q. The association between firm liquidity and Tobin's Q was insignificant.

Table 4 : Financial Characteristics Variables and Performance Variables

		Investments	Leverage	Liquidity	ROA	Tobin's Q
Investments	r	1				
Leverage	r	.150**	1			
Liquidity	r	-.148**	0.057	1		
ROA	r	-.197**	-.240**	.273**	1	
Tobin's Q	r	-.212**	-.190**	0.029	.402**	1

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

Macroeconomic Factors and Performance of Firms Variables

Table 5 reveals that only inflation rate had weak, positive and significant (r=0.0730, p=0.047) association to ROA of listed firms in Kenya. The association between GDP growth rate and interest rate and ROA was insignificant. On the other hand interest rate had weak, negative and significant association with Tobin's Q (r=-0.138, p=0.000). GDP growth rate and inflation rate had insignificant association with Tobin's Q.

Table 5: Macroeconomic Variables and Performance Variables

		GDP Growth Rate	Interest Rate	Inflation Rate	ROA	Tobin's Q
GDP Growth Rate	r	1				
Interest Rate	r	-.151**	1			
Inflation Rate	r	-.262**	-.126**	1		
ROA	r	0.046	-0.07	.073*	1	
Tobin's Q	r	0.052	-.138**	-0.005	.402**	1

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

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

Regression Analysis Results

The study performed tests on statistical assumptions, that is, test of regression assumptions and statistics used. This included test of serial autocorrelation test, panel unit root test, multicollinearity, heteroscedasticity test and Hausman test for model specification to make sure the data used was adequate to conduct inferential analysis. The tests were conducted to make sure that the statistical analysis conducted adhered to regression assumption hence avoid spurious and bias findings. The tests that were used to test various diagnostics test are discussed below.

Table 6: Test of Regression Assumptions

Test of Assumption	Tests Used	Criterion	Results	Conclusion
Normality Test	Shapiro Wilk Test	p>0.05	p-values for all the variables were greater than 0.05	Data was normally distributed
Linearity Test	Scatter plots	upward sloping relationship	upward sloping was achieved	data adhered to linearity assumption
Panel Unit Root Test	Levin, Lin & Chu t* Statistics	P<0.05	null hypothesis that there is a unit root was rejected for all the variables	variables were stationary and adequate for model fitting
Multicollinearity Test	VIF	VIF of less than 10	no problem for multicollinearity	data was adequate for model fitting
Serial Autocorrelation Test	Wooldridge test	no first order autocorrelation was rejected at 5%	Wooldridge f-statistic had p=value of 0.0000	no first order autocorrelation

Heteroscedasticity Test	log likelihood	null hypothesis states that the data homoscedastic	p-value =0.107 was greater than 0.000	null hypothesis that panel is Homoskedastic was not rejected
Hausman Test for Model Specification	Hausman test	null hypothesis for Hausman test states random effect model is the best	prob>chi2 value of 0.4877 which is greater than critical P value at 5% level of significance	The study fitted a random effect regression model

Direct Effect of Corporate Governance and Performance of Listed Firms

The results of diagnostics revealed that the data was adequate to fit a regression model. The results of Hausman specification test further revealed that most appropriate model was a RE regression model hence the study fitted a random effect model to establish the relationship between corporate governance variables and performance of firms. Table 7 contains the results of corporate governance and firm performance. Table 7 presents RE regression models fitted to test the relationship between corporate governance and ROA. The results of Prob > chi2= 0.0423 for model 1 on ROA and Prob > chi2 = 0.0022 for model 2 on Tobin's Q. Both models were statistically significant which further implied that corporate governance measures were significant predictors of performance of listed firms in Kenya as measured by ROA and Tobin's Q. The coefficient results showed that only board meetings (β=-0.00722, p=0.040) significantly predicted ROA of listed companies in Kenya. The results implied that increase in board meetings would results to increase ROA. Other corporate governance variables such foreign director (β=-0.0082, p=0.304), women director (β=-0.01807, p=0.061), occupational expertise (β=0.014673, p=0.076), board age (β=-0.00169, p=0.396), board size (β=-0.00911,p=0.212), board tenure (β=0.00348, p=0.774), board ownership (β=-0.1156,p=0.259), number of board committees (β=-0.00629,p=0.541), committees meetings (β=0.00271,p=0.097) and board remuneration (β=0.014047, p=0.244) did not significantly predict ROA. The coefficient results further revealed that board tools (β=-0.01873, p=0.138) had negative and significant relationship with Tobin's Q. The finding implied that increasing in board tools activities led to reduction in Tobin's Q. Other corporate governance variables such foreign director (β=-0.015765, p=0.598), women director (β=-0.01399, p=0.691), occupational expertise (β=0.035183, p=0.235), board age (β=-0.00996, p=0.166), board size (β=-0.00456,p=0.863), board tenure (β=0.034192, p=0.444), board ownership (β=-0.14268,p=0.731), number of board committees (β=-0.02712,p=0.466), committees meetings (β=0.003358,p=0.566) and board remuneration (β=0.03993, p=0.350) did not significantly predict Tobin's Q.

Table 7: Random Effect Model Corporate Governance and Performance of Listed Firms

	ROA		**Tobin's Q**	
	Coef.	P>|z|	Coef.	P>|z|
Foreign Director	-0.0082	0.304	0.015765	0.598
Women Director	-0.01807	0.061	-0.01399	0.691
Occupational Expertise	0.014673	0.076	0.035183	0.235
Board Age	-0.00169	0.396	-0.00996	0.166
Board Size	-0.00911	0.212	-0.00456	0.863
Board Tenure	0.00348	0.774	0.034192	0.444
Board Ownership	-0.1156	0.259	-0.14268	0.731
Board Tools	0.002871	0.861	-0.14886	0.013
Board Meetings	-0.00722	0.040	-0.01873	0.138
Number of Board Committees	-0.00629	0.541	-0.02712	0.466
Committees Meetings	0.00271	0.097	0.003358	0.566
Board Remuneration	0.014047	0.244	0.03993	0.350
cons	0.283032	0.019	2.282585	0.000
	Wald chi2(5) = 12.96		Wald chi2 (5) = 18.71	
	Prob > chi2= 0.0423		Prob > chi2 = 0.0022	
	R-sq: within = 0.0103		R-sq: within = 0.0222	

Random Effect Model Corporate Governance Composite and Performance of Listed Firms

The study used geometric mean to combine all the components of corporate governance into a composite variable called CG. A regression model was fitted to test whether the corporate variables predicted both ROA and Tobin's Q of listed companies in Kenya. Table 8 presents the RE regression results of the model fitted to test the relationship between CG composite and performance of firms (ROA and Tobin's Q). The results of Prob>chi2= 0.6348 for ROA and Prob>chi2= 0.008 for Tobin's Q also revealed that the model fitted for CG predicted ROA was statistically insignificant while model fitted for CG and Tobin's Q was significant. The findings show that CG significantly predicted Tobin's Q (β=-0.0702, p=0.017) of listed companies in Kenya. However, the effect of CG on Tobin's Q was negative. The findings show that corporate governance increased when listed firms' performance decrease. Based on these findings the study rejected H_{01}- Corporate governance does not significantly affect Tobin's Q of firms listed at the Nairobi Securities Exchange, while fail to reject H_{01}- Corporate governance does not significantly affect ROA of firms listed at the Nairobi Securities Exchange at the level of significance of 0.05.

Table 8: Random Effect Model Corporate Governance Composite and Performance of Listed Firms

	ROA		Tobin's Q	
	Coef.	P>|z|	Coef.	P>|z|
CG	-0.00455	0.568	-0.0702	0.017
_cons	0.179561	0.01	1.9618	0.000
	Prob >chi2 =0.6348		Prob >chi2 =0.008	
	R-sq: = 0.0105		R-sq: = 0.0183	

The Model $FP_{it} = \beta_0 + \beta_1 CG_{it} + \acute{\varepsilon}_{it}$ therefore became;
$FP_1 = 0.179561 + -0.00455\ CG + \acute{\varepsilon}_{it}$
$FP_2 = 1.9618 + 1.9618 CG + \acute{\varepsilon}_{it}$
FP_1= ROA; FP_2= Tobin's Q; CG = CG Composite

Intervening Effect of Financial Characteristics in Listed Firms

The second objective of the study was to establish the intervening effect of financial characteristics on the relationship between corporate governance and performance of firms listed at the Nairobi Securities Exchange. The hypothesis that was tested in order to fulfill the objectives was framed in null form as follows: H_{02}-Financial characteristics do not significantly intervene in the relationship between corporate governance and performance of firms listed at the Nairobi Securities Exchange. The study adopted the steps for testing the intervening effect as suggested by (Baron & Kenny, 1986).

Step One: Relationship between Corporate Governance and Performance of Firms

The first step of testing the intervening involves fitting a model for independent variables and dependent variables while ignoring the intervening variables. The study fitted a RE effect model to test the relationship between CG composite and performance of firms measure using ROA and Tobin's Q. Table 9 presents the RE regression results of the models fitted to test the relationship between CG composite and performance of firms (ROA and Tobin's Q). The regression coefficient further revealed an insignificant relationship between CG Composite and performance of firms (ROA) (β=0.000, p=0.635) and Tobin's Q (β=0.000, p=0.721).

Table 9: Step One RE Regression Results: Corporate Governance and Performance of Firms

	ROA		Tobin's Q	
	Coef.	P>|z|	Coef.	P>|z|
CG	-0.00455	0.568	-0.0702	0.017
_cons	0.179561	0.01	1.9618	0.000
	Wald chi2(1) =0.23		Wald chi2(1) = 0.13	
	Prob >chi2 =0.6348		Prob >chi2 =0.7208	
	R-sq: = 0.0105		R-sq: = 0.0183	

Step Two: Relationship between corporate Governance and Financial Characteristics

Step two involved testing the relationship between independent variable (corporate governance) and intervening variables (financial characteristics) as dependent variables. The results are presented in Table 10 reveals that first model that tested the relationship between CG and investments was statistically insignificant (Prob >chi2= 0.7887). The second model fitted to test the relationship between CG and leverage was statistically significant (Prob > chi2 = 0.0093). The third model fitted to test the relationship between CG and liquidity was also statistically insignificant (Prob > chi2 = 0.4643).

Table 10: Step Two RE Regression Results: Corporate Governance and Financial Characteristics

	Investments		**Leverage**		**Liquidity**	
	Coef.	P>|z|	Coef.	P>|z|	Coef.	P>|z|
CG	0.010	0.06	-0.003	0.954	0.004034	0.529
_cons	0.551	0.00	1.014	0.038	0.171453	0.004
	Wald chi2(1) = 0.07		Wald chi2(1) = 6.77		Wald chi2(1)= 0.54	
	Prob > chi2 = 0.7887		Prob > chi2 = 0.0093		Prob > chi2 = 0.4643	
	R-sq= 0.0480		R-Sq = 0.0797		R-sq: = 0.0008	

Step Three RE Regression Results: Financial Characteristics Variables and Performance of Firms Variables

Step three in testing for the intervening involved regressing the intervening variables with dependent variables without the independent variables. The results presented in table 11 revealed that financial characteristics variables (investment, leverage and liquidity) had a significant effect on ROA and Tobin's Q. The two models fitted to link Financial Characteristics Variables to both ROA and Tobin's Q was statistically significant.

Table 11: Step Three RE Regression Results: Financial Characteristics Variables and Performance of Firms Variables

	ROA		**Tobin's Q**	
	Coef.	P>|z|	Coef.	P>|z|
Investments	-0.12536	0.025	-0.89195	0.000
Leverage	-0.0135	0.003	-0.04612	0.006
Liquidity	0.385251	0.000	-0.41655	0.025
_cons	0.156274	0.000	2.071693	0.000
	Wald chi2(3) = 112.20		Wald chi2(3)= 23.31	
	Prob > chi2 = 0.0000		Prob > chi2 = 0.0000	
	R-sq: = 0.1318		R-sq: = 0.0301	

Step Four RE Regression Results: Corporate Governance, Financial Characteristics Variables and Performance

Step four in testing for intervening effects of financial characteristics involved fitting model to link independent variables and dependent variables in presence of intervening variables.

Table 12: Step Four RE Regression Results: Corporate Governance, Financial Characteristics Variables and Performance

	ROA		**Tobin's Q**	
	Coef.	P>|z|	Coef.	P>|z|
CG	-0.006	0.446	-0.061	0.038
Investments	-0.119	0.034	-0.832	0.000
Leverage	-0.014	0.002	-0.048	0.004
Liquidity	0.386	0.000	-0.387	0.038
_cons	0.200	0.005	2.537	0.000
	Wald chi2(4)=104.80		Wald chi2(4) = 22.94	
	Prob > chi2 = 0.0000		Prob > chi2 = 0.0001	
	R-sq: = 0.1243		R-sq:= 0.0299	

Summary Intervening Effect of Financial Characteristics in Listed Firms

The summary in table 13 shows that step two and step three were achieved the study concluded that intervention was fully achieved. According to Kenny, Kashy and Bolger (1998) the essential steps in the tests for mediation are step 2 and 3. The authors argue that step four does not have to be met unless for full mediation. Hence the study rejected the null hypothesis H_{02}- Financial characteristics do not significantly intervene in the relationship between corporate governance and performance of firms listed at the Nairobi Securities Exchange.

Table 13: Overall Summary of the Intervening Effect of Financial Characteristics

Steps	**IV**	**DV**	**Result**	**Intervention**
1	CG	ROA	Insignificant	Not Achieved
		Tobin's Q	Insignificant	Not Achieved
2	CG	Investment	significant	Achieved
		Leverage	significant	Achieved
		Liquidity	significant	Achieved
3	Investment	ROA	significant	Achieved
		Tobin's Q	significant	Achieved
	Leverage	ROA	significant	Achieved
		Tobin's Q	significant	Achieved
	Liquidity	ROA	significant	Achieved
		Tobin's Q	significant	Achieved
4	CG	ROA	Insignificant	Not Achieved
		Tobin's Q	Insignificant	Not Achieved
	Investment	ROA	significant	Achieved

	Tobin's Q	significant	Achieved
Leverage	ROA	significant	Achieved
	Tobin's Q	significant	Achieved
Liquidity	ROA	significant	Achieved
	Tobin's Q	significant	Achieved

Moderating effect of Macroeconomic Variables in Listed Firms

The third objective of the study was to determine the effect of macroeconomic factors on the relationship between corporate governance and performance of firms listed at the Nairobi Securities Exchange. The hypothesis that was tested in order to fulfill the objectives was framed in null form as follows: H_{03}-Macroeconomic factors do not significantly moderate the relationship between corporate governance and performance of firms listed at the Nairobi Securities Exchange.

Step One, Models Fitting for Moderating Effect of Macroeconomic Factors in Listed Firms

This section presents the overall results for model fitting of moderating effect of macroeconomic factors on relationship between corporate governance and firm performance. The tables 14 shows that both model 1 (Prob > chi2 = 0.0030) and model 2 (Prob >chi2 = 0.0000) were statistically significant. The results further revealed that CG, GDP growth rates, inflation rates and interest rates accounted for 2.26% and 4.81% in the variation in ROA and Tobin's Q respectively. This represented the explanatory power of CG, GDP growth rates, inflation rates and interest rates without the interaction variables.

Table 14: Step One, Models Fitting for Moderating Effect of Macroeconomic Factors in Listed Firms

	ROA		**Tobin's Q**	
	Coef.	P>|z|	Coef.	P>|z|
CG	-0.01097	0.188	-0.067	0.027
GDP Growth Rate	0.00902	0.007	0.025	0.036
Interest Rate	-0.00373	0.211	-0.050	0.000
Inflation Rate	0.006348	0.002	0.002	0.791
_cons |	0.19724	0.014	2.568	0.000
	Wald chi2(4) = 16.02		Wald chi2(4) = 34.33	
	Prob > chi2 = 0.0030		Prob > chi2 = 0.0000	
	R-sq: within = 0.0226		R-sq: within = 0.0481	

Step Two, Models Fitting for Moderating Effect of Macroeconomic Factors in Listed Firms

This step involves conducting panel regression analysis to test the joint effect of independent variable, moderating variables, interaction variable on dependent variable. The results are presented in table 15. The results revealed

that the explanatory power of independent variables and moderating variables on ROA increased from 2.26% to 2.3% with the inclusion of interaction variables IT1, IT2 and IT3. Similarly, the explanatory power of independent variables and moderating variables on Tobin's Q increased from 4.81% to 4.83% with the inclusion of interaction variables IT1, IT2 and IT3 in the model.

Table 15: Step Two: Joint Effect of CG, Moderating Variables, Interaction Variables on Dependent Variable

	ROA		**Tobin's Q**	
	Coef.	P>|z|	Coef.	P>|z|
CG	-0.02067	0.597	-0.36802	0.007
GDP growth rate	-0.00169	0.928	-0.08166	0.207
Interest Rate	-0.00622	0.722	-0.17082	0.005
Inflation Rate	0.007671	0.502	-0.03219	0.418
IT1	0.00132	0.567	0.012982	0.106
IT2	0.000291	0.887	0.014234	0.046
IT3	-0.00014	0.921	0.004196	0.391
_cons	0.275918	0.402	5.083709	0.000
	Wald chi2(7) = 16.26		Wald chi2(7) =34.39	
	Prob > chi2 = 0.0228		Prob > chi2 = 0.0000	
	R-sq: within = 0.0230		R-sq: within =0.0483	

These results implied that macroeconomic variables positively enhanced the relationship between corporate governance and firm performance. The findings further implied that friendly macroeconomic factors enhance the effect of corporate governance on performance of firms. Therefore the study rejected the null hypothesis that: H_{03}-Macroeconomic factors do not significantly moderate the relationship between corporate governance and performance of firms listed at the Nairobi Securities Exchange.

Joint Effect of Corporate Governance, Financial Characteristics, Macroeconomic Factors in Listed Firms Performance

The last objective of the study was to determine the joint effect of corporate governance, financial characteristics and macroeconomic factors on performance of firms listed at the Nairobi Securities Exchange. This section sought to test the hypothesis; H_{04}-Corporate governance, financial characteristics and macroeconomic factors do not significantly jointly affect performance of firms listed at Nairobi Securities Exchange, The result in table 16 revealed that both model 1 (Prob > chi2= 0.0000) and model 2 (Prob > chi2 = 0.0000) were statistically significant. These findings further implied that the joint effect of corporate governance, financial characteristics and macroeconomic factors on performance of firms listed at the Nairobi Securities Exchange was significant hence the study rejected the null

hypothesis that; H_{04}- Corporate governance, financial characteristics and macroeconomic factors do not significantly jointly affect performance of firms listed at Nairobi Securities Exchange. The study therefore concluded that corporate governance, financial characteristics and macroeconomic factors had a significant jointly effect on performance of firms listed on NSE.

Table 16: Joint Effect of Corporate Governance, Financial Characteristics, Macroeconomic Factors in Listed Firms Performance

	ROA		**Tobin's Q**	
	Coef.	P>|z|	Coef.	P>|z|
CG	-0.01166	0.131	-0.0624	0.040
Investments	-0.12927	0.021	-0.81856	0.000
Leverage	-0.01279	0.004	-0.03913	0.019
Liquidity	0.381975	0.000	-0.3688	0.045
GDP growth rate	0.009154	0.004	0.028921	0.014
Interest Rate	-0.00296	0.296	-0.04436	0.000
Inflation Rate	0.006179	0.001	0.003605	0.614
_cons	0.209117	0.008	3.039322	0.000
	Wald chi2(7)=122.45		Wald chi2(7)= 54.09	
	Prob > chi2= 0.0000		Prob > chi2 = 0.0000	
	R-sq:within = 0.1447		R-sq: within = 0.0720	

Model 1

FP_{it} (ROA) = 0.209117 + -0.01166CG_{it} + -0.12927IN_{it-1}+ -0.01279 LE_{it-1} + 0.381975LI_{it-1}+ 0.009154GDP_{it-1}+ -0.00296INR_{it-1}+ 0.006179IFR_{it-1}+c_i +$\acute{\varepsilon}_{it}$

Model 2

FP_{it} (Tobin's Q) =3.039322 + -0.0624CG_{it} +-0.81856 IN_{it-1}+ -0.03913LE_{it-1} + -0.3688LI_{it-1} + 0.028921GDP_{it-1}+ -0.04436INR_{it-1}+ 0.003605 IFR_{it-1}+c_i +$\acute{\varepsilon}_{it}$

Where; CG =Corporate Governance; IN = Firm Investments; LE= Firm Leverage; LI=Firm Liquidity; GDP = GDP growth Rate; INR = Interest Rates; IFR= Inflation Rate; ε =Error Term

Summary and Conclusion

Based on the findings, the study made various conclusions; study concluded that listed firms in Kenya adopted corporate governance practices as part of the requirements of the regulating authority which had impact on the specific firm's performance. The study established that most of the corporate governance practices adopted by listed firms in Kenya had an significant effect on the performance of listed firms. The study also concluded that listed firms in Kenya strengthened their corporate governance due to poor performance. The study also concluded that some listed firms in Kenya continued to record poor performance despite corporate governance investments. The study further concluded that financial characteristics of the firms are important ingredients for better performance and overall firms' growth. They significantly intervene in the relationship between corporate governance and firm performance. Firm investments, firms' leverage and firms' liquidity

provide the necessary vehicle to be used by management to fuel high performance of listed firms in Kenya.

On the moderating effect, the study concluded that friendly macroeconomic conditions act as a catalyst that enhances corporate governance practices such as frequency of board meetings to approve some of the immediate actions the management may wish to undertake to mitigate the effect of volatility in the macroeconomic environment. The findings of this study revealed that macroeconomic factors enhanced the strength of the relationship between corporate governance and performance of firms through enhancing the explanatory power of corporate governance variables on performance of firms. The study therefore concluded that the macroeconomic factors play a critical role in moderating the relationship between corporate governance and performance of firms. The study finally concluded that listed firms that focused on enhancing their corporate governance, financial characteristics and operated in favourable macroeconomic environment are likely to increase their performance since jointly corporate governance, financial characteristics and favourable macroeconomic conditions were found to account for the highest variations in both ROA and Tobin's Q of the listed firms in Kenya.

Recommendations

Based on the findings, the study recommended that listed firms should revisit their corporate governance practices to ensure that they leverage on practices that improve performance while obsolete corporate governance practices should be abolished. The shareholders of listed firms may adopt the findings of this study to restructures their corporate governance investments to mechanisms that have effect on performance of their firms or realigning them to make more effective. The stakeholders may also use the findings of this study to open inquiry on effectiveness of corporate governance in their respective firms for future improvement. Based on the findings Capital Market Authority may relook at the corporate governance policies of listed firms with the view revising them or formulating new and more progressive policies to ensure shareholder interests are protected. These policies may go a long way to ensure listed firms not only strengthened their corporate governance during poor performing seasons but rather have a clear policies that provide a good roadmap to guide board operations.

Based on the findings, the study recommended that management and stakeholders of listed firms should not only focus on streamlining corporate governance practices, but should further enhance their level of investments, liquidity and use of leverage to significantly improve their firm performance. The study further recommended that state authorities and policymakers should formulate policies that keep the economy afloat which will provide the

necessary environment for operations of firms to enhance profitability. There is a need for further studies taking into consideration post interest cap review and the impact of Covid-19 on firms' performance.

References:

1. Adegboye, A., Ojeka, S., Adegboye, K., Ebuzor, E., & Samson, D. (2019). Firm performance and condensed corporate governance mechanism: evidence of Nigerian financial institutions. *Business: Theory and Practice*, *20*, 403-416.
2. Agrawal, A. & Knoeber, C.R. (1996). Performance of firms and mechanisms to control agency problems between managers and shareholders. *Journal of Financial and Quantitative Analysis* 31, 377–397.
3. Atosh, M.A. & Iraya, C. (2018). Effect of corporate governance practices on financial distress among listed firms at Nairobi Securities Exchange. *Journal of International Business, Innovation and Strategic Management,* 1(6), 70-90.
4. Brigham, E. B. & Davis, P. R (2018) *Intermediate Financial management*, 13th edition, Amazon.co.uk.
5. Bryaman, A. & Cramer, D. (2005). *Quantitative Data Analysis with SPSS 12 and 13: A guide for Social Scientists*. London: Rout ledge.
6. CMA (2015). Capital Markets Authority of Kenya Code Of Corporate Governance Practices for Issuers of Security to the Public. *Retrieved on 23th June 2017, from* http://www.cma.or.ke
7. Dash, S., R. & Raithatha, M. (2019). Corporate governance and firm performance relationship: Implications for risk-adjusted return behaviour, *Managerial and Decision Economics, The International Journal of Research and Progress in Management Economics*, 40(8), 923-940.
8. Davis, J.H., Schoorman, F.D. & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review*, 22, 20-47.
9. Fama, E. F. & Jensen, M. C. (1983). Separation of Ownership and Control, *Journal of Law and Economics*, 26(2), 301-325.
10. Freeman, R. E. (1984).*Strategic Management: A Stakeholder Approach*. Pitman, London
11. Ghabayen, M. A. (2012). Board characteristics and Performance of firms: case of Saudi Arabia. *International Journal of Accounting and Financial Reporting***,** 2 (2), 168-200.
12. Ibe, H. C. A., Ugwuanyi, G. O. & Okanya, O. C. (2017). Effects of corporate governance mechanisms on financial performance of

insurance companies in Nigeria, *Journal of Finance and Accounting*, 5(3),93-103.
13. Jensen, M.C. & Meckling, W. (1976).Theory of the firm: managerial behaviour, agency costs, and capital structure. *Journal of Financial Economics* 3, 305–360.
14. Jones, T. M., & Felps, W. (2013). Shareholder wealth maximization and social welfare: A utilitarian critique. *Business Ethics Quarterly*, *23*(2), 207-238.
15. Kosgei, M. & Rono, L. (2018). Effect of GDP, population and interest rate on residential house prices in Nairobi County, Kenya, European *Journal of Business and Management*, 10(1), 1-11.
16. Lin, D., & Lin, L. (2018). Corporate governance and firm performance: a study of high agency costs of free cash flow firms, *Journal of Social Science Research*, *12*(2), 2724-2731.
17. Makini, S., O., Awino, Z., B., Ogolla, K., & Magutu, P. (2020). Corporate Governance and performance of companies listed at Nairobi Securities Exchange: The role of top management team characteristics, *International Journal of Innovative Research and Advanced Studies (IJIRAS)*, 7(3), 135-140.
18. Michelberger, K. J. (2017). Impact of corporate governance of firm performance and total shareholder return of German listed companies. (PhD Thesis, University of Lativa).
19. Mureithi, S., Mukhongo, A., & Datche, E. (2019). Macroeconomic factors affecting performance of firms listed in Nairobi Securities Exchange. *The Strategic Journal of Business & Change Management*, 6 (3), 860 – 874.
20. NSE(2016). Nairobi Securities Exchange Handbooks. *Retrieved on 16th May 2017, from* https://www.nse.co.ke
21. Omware, I., M., Atheru, G. & Jagongo, A. (2020). Corporate governance and financial performance of selected commercial banks listed at Nairobi Securities Exchange in Kenya, International Academic *Journal of Economics and Finance*, 3(5), 75-91.
22. Saseela, B. (2018). Corporate Governance and Firm Performance: Empirical Evidence from Emerging Market, *Asian Economic and Financial Review*, 8(12), 1415-1421.
23. Tricker, R. B., & Tricker, R. I. (2018). *Corporate governance: Principles, policies, and practices*. Oxford University Press, USA.
24. Windsor, D., & Boatright, J. R. (2010). Shareholder wealth maximization. *Finance ethics: Critical issues in theory and practice*, 437-455.