

# The Relationship between Corporate Governance and Financial Performance of Commercial Banks in Kenya

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## Abstract -

*Academics, practitioners as well as regulators consider prudent Corporate Governance and efficient financial performance as major goals of commercial banks. The Central Banks and Capital Market Authorities and other regulatory authorities of different jurisdictions have, from time to time, issued guidelines on both Corporate Governance and Risk Management to ensure the proper functioning of the financial system that aligns the interest of the banks with other stakeholders. In spite of the stringent regulations and monitoring mechanisms, a number of banks have failed to operate above board, forcing the regulators to intervene to restore sanity in the financial system. The objective of the study was to establish the relationships between Corporate Governance and the Financial Performance of commercial banks in Kenya. Different performance metrics, quantitative and qualitative, have been used in the evaluation of Banks performance by regulators and scholars. This study used the CAMEL rating system that analyses capital adequacy, asset quality, management quality, earnings, and liquidity to measure the financial performance of commercial banks. The CAMEL system has become an important tool for measuring the overall soundness and safety of banks in light of the global financial crisis and bank failures. The study used correlation and multiple regression analysis to establish the relationship between Corporate Governance and bank financial performance. The study was anchored on the Agency theory, adopted a positivism research philosophy and used a cross-sectional descriptive research design. The population consisted of 43 commercial banks registered in Kenya as of 31<sup>st</sup> December 2014. Descriptive statistics and diagnostic tests were conducted on the data. Thereafter inferential statistics, namely correlation analysis and regression analysis, were used to test the hypotheses. The study found that a statistically significant relationship exists between Corporate Governance bank Financial Performance. The study recommends that regulators, boards and management of commercial banks ensure congruence in their activities (oversight, implementation and monitoring) with corporate objectives to enhance improved bank Financial Performance and value maximization.*

**Keywords** - Corporate Governance, Financial Performance, Commercial Banks and Kenya

## I. INTRODUCTION

Namiro (2007) define Corporate Governance as the mechanisms used to align the interests of the executives with those of the shareholders, including, but not limited to, boards of directors, executive compensation, and active use of ownership prerogatives by large shareholders, like institutional investors, and the market for corporate control, like acquisitions. Whether regulation substitutes or complements traditional governance mechanisms and controls is a subject of debate; however, it is generally agreed that the external controls are coming from takeovers, and product-market competition turns out to be weaker in banks than in other firms (Prowse, 1997).

According to Simerly and Li (2000), measuring firm performance has been a major challenge for scholars and practitioners. Performance is a multidimensional construct, and thus, any single index may not be able to provide a comprehensive understanding of the performance relationship relative to the constructs of interest (Chakravathy, 1986). Kaplan and Norton (1996), in their balanced scorecard (BSC) model, suggest a framework of translating vision and strategy into shareholder value by focusing on the four drivers of value, including financial, customer, learning & growth and finally, internal business processes perspectives. They, however, argue that the Financial Performance metric is the ultimate outcome measure for company success.

The most widely used Financial Performance tool for financial institutions by the principal regulators all around the world is the CAMEL rating (Kabir&Dey, 2012). CAMEL is considered as one of the most widely used tools for judging Capital Adequacy, Asset Quality, Management Capacity, Earnings Ability, and Liquidity of the financial institution. The CAMEL rating system is generally used by the Government and commercial bank regulators for the purpose of assessing the soundness of saving associations and banks (Siems& Barr, 1998).

The Triangle Model, developed by Tandelilin, Kaaro and Mahadwartha (2007), states that Corporate Governance can influence the performance of banks either directly or indirectly through the regulation of Risk Management. Through the implementation of effective Corporate Governance mechanisms, the



stakeholders of banks are able to enhance the market creditability and thereby be able to raise capital at both lower cost as well as lower risk levels.

Commercial banks play an important role in the economy of a country. The main functions of commercial banks include the provision of a safe place for clients to keep their money by accepting money deposited by customers and making money accessible to customers when the need arises. They facilitate the convenient transfer of money from one account to another, which is useful to customers when making payments directly into another account (Retrieved from <https://www.centralbank.go.ke>).

Macey and O'hara (2003) argue that commercial banks pose unique Corporate Governance problems for managers and regulators, as well as for claimants on the bank's cash flows, such as investors and depositors. They support the general principle that fiduciary duties should be owed exclusively to shareholders, but in the special case of banks, the scope of the fiduciary duties and obligations of officers and directors should be broadened to include creditors. Naushad and Malik (2015) argue that the structure of the governance of banks remains unique in nature since, unlike other corporations, banks carry a special responsibility to take care of people's money as well as maintain trust among the other stakeholders. Therefore, banks need to be more accountable and transparent.

## II. RESEARCH PROBLEM

The recent wave of corporate scandals leading to resignations/convictions of CEOs in several corporations (Petrobras, 2015; Toshiba, 2015; Mumias Sugar, 2015; CMC Motors, 2011; Fannie Mae, 2011; Lehman Brothers, 2008; WorldCom, 2002; Enron 2001, among others) has led to increased interest and attention from regulators, academicians and researchers on the governance practices among corporation. The increased media coverage has turned transparency, managerial accountability, Corporate Governance failures, weak boards of directors, hostile takeovers, protection of minority shareholders, and investor activism into household phrases.

There are conflicts in Agency, Stewardship and Stakeholder theories. Heracleous (2001) states, "researches have failed to find any convincing connection between the best practices in Corporate Governance and organizational performance". Some studies find significant relationships between Corporate Governance and firm performance (Rosenstein & Wyatt, 1990; Yermack, 1996; Tandelilin et al., 2007; Brown and Caylor, 2004), while others find no relationship (Fosberg, 1989; Bhagat & Black, 2002).

Studies relating to Corporate Governance and Financial Performance have yielded contradictory and inconclusive results. The possible explanation for

the conflicts and contradictions could be that studies have ignored either the intervention and moderation effects of other explanatory variables, the differences in the attributes of predictor and dependent used, as well as methodological differences. This study, therefore, attempted to make a contribution by investigating, using different indicators, the relationship between corporate governance and bank financial performance with commercial banks in Kenya.

## III. RESEARCH OBJECTIVES

The study addressed the following specific research question: does corporate governance significantly affect the Financial Performance of commercial banks in Kenya?

The general objective of the study was to establish the relationships between corporate governance and the financial performance of commercial banks in Kenya.

The specific objective was to determine the effect of corporate governance on the financial performance of commercial banks in Kenya.

## IV. LITERATURE REVIEW

This section is a presentation of literature applicable to the study as presented by other scholar's researchers and analysts.

### *Theoretical Review*

Agency theory (also called principal-agent theory) was originally proposed by Ross (1973) to explain relationships between two parties (such as those between an employer and its employees, between organizational executives and shareholders, and between buyers and sellers) whose goals are not congruent with each other. The theory was expounded by Jensen and Meckling (1976), who argue that the separation of ownership from control creates an agency problem whereby managers operate the firm aligned with their own interests and not those of shareholders. This creates opportunities for managers to spend firm resources for the maximization of their own utilities rather than those of the shareholders. Agency conflicts may arise among shareholders versus bondholders, shareholders and independent auditors, shareholders and Government, dominant versus minority shareholders, as well management and subordinates.

The Stewardship Theory was developed by Donaldson in 1990. It holds that there is no conflict of interest between managers and owners and that the goal of governance is, precisely, to find the mechanisms and structure that facilitate the most effective coordination between the two parties (Donaldson, 1990). In contrast to Agency theory, Stewardship theory regard managers as good stewards who are willing to sacrifice their self-

interest and act in the best interests of the shareholders (Donaldson & Davis, 1991). Managers are therefore concerned with identifying the situational and psychological factors that align their interests with those of the principals. Davis, Schoorman and Donaldson (1997) argue that the behaviour of stewards is pro-organizational, and it produces higher utility than self-serving behaviour. They argue that stewards protect and maximize shareholders wealth through firm performance because by so doing, the stewards' utility functions are maximized.

#### ***A. Empirical Literature Review on Corporate Governance and Financial Performance***

The relationship between CEO duality and organizational performance was examined by Rechner and Dalton (1991) using a random sample of corporations from the Fortune 500. The study identified corporations that had remained as either dual or independent chair-CEO structures for each year of a six-year period (1978–1983) and found that corporations that had independent chair-CEO structures had a higher return on equity (ROE), return on investment (ROI) and profit margins. Their study supports agency theory expectations about inferior shareholder returns from CEO duality.

Whether firms with weaker Corporate Governance performed differently from those with stronger Corporate Governance was studied by Brown and Caylor (2004), the researchers examined whether firms with weaker Corporate Governance were riskier and paid out fewer dividends than firms with stronger Corporate Governance and found out that firms with weaker Corporate Governance were riskier and had lower dividend pay-outs and lower dividend yields than firms with stronger Corporate Governance.

In Poland, Aluchna (2009) investigated the relationship between compliance with Corporate Governance best practice and Corporate Performance on a sample of Polish public listed companies for the years 2004–2006. The findings were that complying with Corporate Governance best practice in Poland was associated with a lower return on investment. However, the tendency changed into negative but statistically insignificant for the second and third years and positive but statistically insignificant when only rated companies were included in the research sample. Further, the relationship between the proxy of Tobin's  $q$  and Corporate Governance rating was statistically insignificant and negative for the whole sample and positive for the first and third year as well as for rated companies.

The relationship between Corporate Governance and Bank Performance during the credit crisis was investigated by Beltratti and Stulz (2012) in an international sample of 98 banks. They found that banks with more shareholder-friendly boards as

measured by the “Corporate Governance Quotient” (CGQ) obtained performed worse during the crisis. The findings suggest that generally, good Governance does not necessarily have in the best interest of shareholders.

Using a unique dataset of 296 financial firms from 30 countries that were at the centre of the 2007–2008 financial crises, Erkens, Hung and Matos (2012) investigated the influence of Corporate Governance on firm Financial Performance during the crisis. They found that firms with more independent boards and higher institutional ownership experienced worse stock returns during the crisis. The findings suggest a negative relationship exists between Corporate Governance and Firm Performance.

Naushad and Malik (2015) examined the effect of Corporate Governance (denoted by board size, duality & agency cost) on the Performance of selected 24 Gulf Cooperation Council (GCC) banks for the financial year 2012–13. The findings were that smaller boards were more capable of monitoring the management closely in the GCC banking sector. Further dual role of Chief Executive Officer (CEO) was likely to improve the GCC bank Performance, and the presence of block holders in the ownership structure of GCC banks had a positive effect on the Performance of the banking sector. The conclusion of the study was that Corporate Governance posed a significant influence on the Financial and Accounting Performance of the GCC banking sector.

Using a sample of 107 banks in Russia and fifty banks in Ukraine, Love and Rachinsky (2015) did a study on the relationship between Corporate Governance and operating Performance in banks. The study found significant but modest relationships between Governance and operating performance and a non-significant link with the subsequent performance. The study concluded that other than the popularity of Corporate Governance in public discussions, it had at best a second-order effect on operating performance in Russian and Ukrainian banks.

### **V. CONCEPTUAL HYPOTHESIS**

The null hypothesis tested in the study was that the relationship between corporate governance and the financial performance of commercial banks in Kenya is not significant

### **VI. RESEARCH METHODOLOGY**

This section describes the research methodology that was used in conducting the study. The chapter discusses research design, study population, data collection methods, operationalization of the study variables and the data analysis procedures adopted.

Saunders, Lewis, and Thornhill (2009) define research philosophy as the foundation of knowledge as well as the nature of that knowledge that contains

important assumptions about the way the researcher views the world. Bhattacharjee (2012), citing Johnson and Clark (2006), state that business and management researchers need to be aware of the philosophical commitments made through the choice of research strategy since this has a significant impact, not only on what the researchers do but they understand what it is they are investigating.

A research design is a blueprint for conducting the study with maximum control over factors that may interfere with the validity of the findings (Burns & Grove, 2010). According to Trochim (2005), research design “provides the glue that holds the research project together”. A design is used to structure the research, to show how all of the major parts of the research project work together to try to address the central research questions. Research designs can be grouped into three main types: exploratory, descriptive, and explanatory (Bhattacharjee, 2012). A detailed discussion of each research design is provided in the section below:

An exploratory research design is a valuable means of finding out ‘what is happening; to seek new insights; to ask questions and to assess phenomena in a new light’ (Robson & McCartan, Robson, 2016). The design is useful to clarify the understanding of a problem, for example, if the researcher is unsure of the precise nature of the problem. The three principal ways of conducting exploratory research include a search of the literature, interviewing ‘experts’ in the subject and conducting focus group interviews.

Bhattacharjee (2012) states that exploratory designs are often used in new areas of inquiry, where the goals of the research are to scope out the magnitude or extent of a particular phenomenon, problem, or behaviour; to generate some initial ideas (or “hunches”) about that phenomenon, or to test the feasibility of undertaking a more extensive study regarding that phenomenon. Adams and Schvaneveldt (1991) liken exploratory design to the activities of the traveller or explorer with the advantage of flexibility and adaptability to change. They argue that in conducting exploratory research, the researcher must be willing to change direction as a result of new data that appear and new insights that occur. They argue that the flexibility inherent in exploratory research does not mean the absence of direction to the enquiry. It simply means that the focus is initially broad and becomes progressively narrower as the research progresses.

Burns and Grove (2003) define descriptive research as a design to provide a picture of a situation as it naturally happens. The design may be used to justify the current practice, make the judgment and also develop theories. Robson and McCartan (2016) state that the objective of descriptive research is to portray an accurate profile of persons, events or situations. A descriptive design can be an extension of, or a forerunner to, a piece of exploratory research

or, more often, a piece of explanatory research. It is necessary to have a clear picture of the phenomena on which you wish to collect data prior to the collection of the data. Descriptive designs in management and business research should be thought of as a means to an end rather than an end in itself. Descriptive design is likely to be a precursor to an explanatory study design, known as descriptor-explanatory studies (Saunders et al., 2009).

An explanatory design involves studies that establish causal relationships between variables (Saunders et al., 2009). The emphasis of an explanatory design is to study a situation or a problem in order to explain the relationships between variables. This design attempt to clarify how and why there is a relationship between two or more aspects of a situation or phenomenon.

Zikmund, Babin, Carr and Griffin (2013) suggest that the degree of uncertainty about the research problem determines the research design. Table 3.3 below provides a summary of the degree of problem definition and possible situations that would be appropriate for each of the three research designs.

Since the key variables in the study were defined and the study had clearly stated hypotheses and investigative questions, the descriptive design was appropriate for this study. This position is supported by Cooper and Schindler (2003), who state that the descriptive design is appropriate for a study that has clearly stated hypotheses or investigative questions. The main advantage of descriptive research is the capacity to study change and development. As pointed out by Adams and Schvaneveldt (1991), “in observing people or events over time the researcher is able to exercise a measure of control over variables being studied, provided that they are not affected by the research process itself”. Previous studies have used the descriptive approach (Tandelilin et al., 2007; Ndung’u, 2013; Mang’unyi, 2011).

Cooper and Schindler (2003) define a population as an entire group of individuals, events or objects having common characteristics that conform to a given specification. The population of the study were all the forty-three (43) commercial banks registered in Kenya as of December 31, 2014.

Commercial banks were selected for this study due to the uniqueness of Corporate Governance and Risk Management adopted by them. There are unique Corporate Governance and Risk Management challenges in commercial banks, as evidenced by the interventions by regulatory bodies through the issuance of prudential guidelines on Corporate Governance and Risk Management. In addition, commercial banks are involved in the financial mediation process, and problems in the banking industry can have a contagious effect on the entire financial factor and the economy as a whole.

According to Burns and Grove (2010), data collection is the precise, systematic gathering of

information relevant to the research sub-problems, using methods such as interviews, participant observations, focus group discussion, narratives and case histories. The study used quantitative secondary data collected in Microsoft excel sheets for a five year period (2010 to 2014). Secondary data on Risk Management, Firm Characteristics and Financial Performance was collected from the annual reports and accounts of the commercial banks as well as the CBK Bank Supervision and Banking Sector Reports. Tandelilin et al. (2007) used both primary and secondary data in the analysis with consistent results.

Corporate Governance was measured using three attributes; board size, board composition and board independence obtained from the annual reports of the commercial banks. These measures were adopted from those used by Akhtaruddin, Hossain, Hossain and Yao (2009). Bank Financial Performance indicators were based on the CAMEL model (Capital Adequacy, Asset Quality, Management Capacity, Earning Ability and Liquidity), which were adopted from those used by Reddy (2012).

The classical linear regression model is based on a number of assumptions, including linear relationship, multivariate normality, no or little multicollinearity, no auto-correlation and homoscedasticity. The following diagnostic tests were conducted on the data.

Linear regression analysis requires that there is little or no autocorrelation in the data. Autocorrelation occurs when the residuals are not independent of each other. The Durbin –Watson statistic ( $1.5 < d < 2.5$ ), as proposed by Durbin and Watson (1951), was used to test the autocorrelation in the panel data. To ensure that the value of  $y(x+1)$  is independent of the value of  $y(x)$ .

The ANOVA test of linearity was used to check for linearity of the relationships between the independent and the data of the dependent variable. The test computed both the linear and nonlinear components of a pair of variables. Nonlinearity was considered significant if the computed F value for the nonlinear component was below 0.05.

Zikmund et al. (2013) define data analysis as the application of reasoning to understand the data that has been gathered with the aim of determining consistent patterns and summarizing the relevant details revealed in the investigation. Sekaran (2006) suggests a four-step approach in data analysis, namely; get the data ready for analysis (editing for accuracy, consistency and completeness); get a feel of the data (descriptive statistics); test the goodness of fit (diagnostic tests) and finally hypothesis testing. The statistical package for social sciences (SPSS) version 21 was used in the data analysis.

The study used correlation and multiple regression analysis to establish the relationship between Corporate Governance and bank Financial Performance.

The above analysis was consistent with those used in the previous studies to test the main effect of Corporate Governance and Financial Performance (Klein et al., 2005, Mang’unyi, 2011, Tandelilin et al., 2007, Rogers, 2006). Previous studies that have used multiple measures of Financial Performance include Ongore and Kusa (2013), who used three measures of Financial Performance (ROA, ROE & NIM); Rogers (2006), who measured Financial Performance based on each of the components of the CAMEL model (Capital adequacy, Asset Quality, Management Capacity, Earnings, and Liquidity) and Reddy (2012) who evaluated the relative performance of commercial banks using CAMEL approach. The current study adopted the CAMEL model to evaluate Financial Performance for the attributes and composite (CAMEL ratio) measure as follows:

A hierarchical multiple regression model was used to determine the relationship between Corporate Governance and the Financial Performance of commercial banks in Kenya. The following multiple regression models were used to test hypothesis one of the study.

$$FP_i = \beta_0 + \beta_1 BC + \beta_2 BI + \beta_3 BS + \varepsilon_i \dots (1)$$

$$CAMEL = \beta_0 + \beta_1 BC + \beta_2 BI + \beta_3 BS + \varepsilon_i \dots (2)$$

**Where:**

$FP_i$ , Financial Performance Attribute i, (i=1 to 5;  $i_1$ =Capital Adequacy,  $i_2$ =Asset Quality,  $i_3$ =Management Capacity,  $i_4$ =Earnings, and  $i_5$ =Liquidity)

CAMEL Composite ratio of Financial Performance that was computed as a geometric mean of the attributes of Financial Performance

$\beta_0$  Regression constant or intercept,  
 $\beta_i$  Regression coefficients of variable

i

BC Board Composition,  
 BI Board Independence  
 BS Board Size

$\varepsilon_i$  is a random error term that accounts for the unexplained variations.

## VII. DATA ANALYSIS, FINDINGS AND DISCUSSIONS

### A. Introduction

Descriptive statistics included measures of the mean, maximum, minimum, standard error of estimate, skewness and kurtosis. Mean is a measure of central tendency used to describe the most typical value in a set of values. The standard error is a statistical term that measures the accuracy within a set of values. Skewness is a measure of symmetry, or more precisely, the lack of symmetry. A distribution, or data set, is symmetric if it looks the same to the left and right of the centre point. Kurtosis is a measure of whether the data are peaked or flat

relative to a normal distribution (Cooper & Schindler, 2003).

The results of the descriptive statistics of all the study variables for the number of observations (N) are shown in Table 2.

**Table 2. Financial Performance Descriptive Statistics**

	Capital Adequacy	Asset Quality	Management Capacity	Earnings	Liquidity	CAMEL Ratio
N Valid	209	209	209	209	210	210
Missing	1	1	1	1	0	0
Mean	0.24	0.05	0.77	0.02	0.05	0.22
Median	0.20	0.03	0.76	0.03	0.05	0.22
Std. Deviation	0.15	0.06	0.24	0.02	0.00	0.06
Skewness	2.36	4.15	1.25	-1.86	-1.51	2.23
Std. Error of Skewness	0.17	0.17	0.17	0.17	0.17	0.17
Kurtosis	7.73	24.55	4.91	7.73	0.29	8.82
Std. Error of Kurtosis	0.34	0.34	0.34	0.34	0.33	0.33
Minimum	0.00	0.00	0.20	-0.11	0.05	0.05
Maximum	1.10	0.47	2.04	0.07	0.05	0.55

Source: Research Findings

Table 2 above shows that Capital Adequacy, Asset Quality, Management Efficiency, Earnings, Liquidity and CAMEL Ratio had a mean of .24±.15, .05±.06, .77±.24, .02±.02, .05±.00 and 0.22±.06 respectively. The results show Capital Adequacy, Asset Quality, Management Capacity, and CAMEL Ratio had positive skewness while all the variables showed positive Kurtosis.

**Table 3. Corporate Governance Descriptive Statistics**

	Board Size	Board Composition	Board Independence
N Valid	210	210	210
Missing	0	0	0
Mean	8.88	0.19	0.81
Median	8.00	0.17	0.83
Std. Deviation	2.57	0.09	0.09
Skewness	1.40	1.23	-1.23
Std. Error of Skewness	0.17	0.17	
Kurtosis	3.70	1.99	0.17
Std. Error of Kurtosis	0.33	0.33	0.33
Minimum	5.00	0.05	0.50
Maximum	19.00	0.50	0.95

Source: Research Data (2016)

Table 3 above shows that Board Size, Board Composition, and Board independence had a mean of 8.9±2.57, .193±.09 and .81±.09, respectively. The

results show that Board Size and Board composition had positive skewness while Board independence had negative skewness and all the variables showed positive Kurtosis.

**B. Financial Performance Panel Data Independence Test**

Linear regression analysis requires that there is little or no autocorrelation in the data. Autocorrelation occurs when the residuals are not independent of each other. The Durbin –Watson (1951) statistic was used to test the autocorrelation in the panel data. The results are presented in Table 4 below

**Table 4. Results of Financial Performance Independence Test**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic (d)
Capital Adequacy	.299a	.089	.085	.0534503	2.085
Asset Quality	.690a	.476	.473	.0405567	1.661
Management Capacity	.129a	.017	.012	.0029946	2.122
Earnings	.066a	.004	.000	.0558889	1.932
Liquidity	.078a	.006	.001	.0569726	1.883

a. Dependent Variable: CAMEL Ratio  
Source: Research Data (2016)

Table 4 shows the model summary and overall fit statistics. With Capital Adequacy as the predictor, adjusted R<sup>2</sup> is .085 with the R<sup>2</sup> = .089, meaning that the linear regression explains 0.9% of the variance in the data. The Durbin-Watson statistic (d = 2.085) lies between the two critical values of 1.5 < d < 2.5, meaning there is no first-order linear auto-correlation in the data. Asset Quality, Management Capacity, Earnings and Liquidity could explain 47.3% (d=1.661), 1.2% (d=2.122), 0% (d=1.932) and 0.1% (d=1.883) respectively, meaning no linear auto-correlation. All the attributes of Financial Performance, the Durbin-Watson statistic (d), lies between the two critical values of 1.5 < d < 2.5, meaning there is no first-order linear auto-correlation in the multiple linear regression data.

**C. Financial Performance Panel Data Linearity Test**

The ANOVA test of linearity was used to check for linearity of the relationships between the independent and the data of the dependent variable. The test computed both the linear and nonlinear components of a pair of variables. Nonlinearity was considered significant if the computed F value for the nonlinear component was below 0.05. The results

are presented in Table 5 below:

**Table 5. Results of Financial Performance Linearity ANOVA Test**

			Sum of Squares	df	Mean Square	F	Sig.
Capital Adequacy	Between Groups	(Combined)	4.48	198	0.02	2.57	0.05
		Linearity	0.41	1	0.41	46.31	0.00
		Deviation from Linearity	4.07	197	0.02	2.34	0.07
	Within Groups	.088	0.09	10.00	0.01		
Total			4.569	4.57	208.00		
Asset Quality	Between Groups	(Combined)	0.60	198	0.00	0.91	0.63
		Linearity	0.30	1	0.30	90.88	0.00
		Deviation from Linearity	0.30	197	0.00	0.46	0.98
	Within Groups	.033	0.03	10.00	0.00		
Total			.632	0.63	208.00		
Management Efficiency	Between Groups	(Combined)	11.60	198	0.06	4.71	0.01
		Linearity	8.18	1	8.18	657.81	0.00
		Deviation from Linearity	3.42	197	0.02	1.39	0.29
	Within Groups	.124	0.12	10.00	0.01		
Total			11.723	11.72	208.00		
Earnings	Between Groups	(Combined)	0.11	198	0.00	1.10	0.48
		Linearity	0.00	1	0.00	1.00	0.34
		Deviation from Linearity	0.11	197	0.00	1.10	0.48
	Within Groups	.005	0.01	10.00	0.00		
Total			.114	0.11	208.00		
Liquidity	Between Groups	(Combined)	0.00	190	0.00	0.70	0.88
		Linearity	0.00	1	0.00	0.70	0.88
		Deviation from Linearity	0.00	189	0.00	0.70	0.88
Total			0.00	0.00	209.00		

Groups	Linearity	0.00	1.00	0.00	0.50	0.49
	Deviation from Linearity	0.00	189.00	0.00	0.70	0.88
Within Groups		.000	0.00	19.00	0.00	
Total		.002	0.00	209.00		

Source: Research Data (2016)

Based on the ANOVA Table 5 above, the values of significance from linearity for Capital Adequacy, Asset Quality, Management Capacity, Earnings and Liquidity of .068, .980, .292, .475 and .882 all greater than .05(p>.05), it can be concluded that there is a linear relationship between the Financial Performance variable and its attributes.

**D. Financial Performance Panel Data Multicollinearity Test**

Multicollinearity occurs when the variables are not independent of each other, meaning one independent variable can be linearly predicted from the others with some reasonable degree of accuracy (Wooldridge, 2002). The presence of multicollinearity in the Financial Performance was assessed using the VIF (Tolerance) test. The results are presented in Table 6 below:

**Table 6. Results of Financial Performance Multicollinearity Test**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant) Management Capacity	0.08	0.01		10.42	0.00		
	0.20	0.01	0.84	21.87	0.00	1.00	1.00
2 (Constant) Management Capacity	0.00	0.00		0.17	0.87		
	0.23	0.00	0.97	88.94	0.00	0.94	1.07
3 (Constant) Management Capacity Capital Adequacy	0.21	0.00	0.55	49.86	0.00	0.94	1.07
	0.21	0.00	0.87	124.57	0.00	0.59	1.70
Capital Adequacy	0.19	0.00	0.51	90.12	0.00	0.88	1.13

	Asset Quality	0.17	0.01	0.17	24.54	0.00	0.63	1.59
4	(Constant)	0.01	0.00		50.28	0.00		
	Management Capacity	0.20	0.00	0.85	866.49	0.00	0.57	1.75
	Capital Adequacy	0.20	0.00	0.53	656.48	0.00	0.85	1.18
	Asset Quality	0.20	0.00	0.20	199.28	0.00	0.57	1.75
5	Earnings	0.20	0.00	0.08	102.20	0.00	0.84	1.19
	(Constant)	0.00	0.00		0.00	1.00		
	Management Capacity	0.20	0.00	0.85	286.0	0.00	0.56	1.80
	Capital Adequacy	0.20	0.00	0.53	220.2	0.00	0.85	1.18
	Asset Quality	0.20	0.00	0.20	669.6	0.00	0.56	1.77
	Earnings	0.20	0.00	0.08	345.7	0.00	0.84	1.20
	Liquidity	0.20	0.00	0.01	479.1	0.00	0.97	1.03

a. Dependent Variable: CAMEL Ratio

Source: Research Data (2016)

In the stepwise multiple linear regression analysis, there are highly significant coefficients. When Camel Ratio was predicted against the attributes of Financial Performance, it was found that Management Capacity (Beta = -0.85,  $p < .01$ ) and Capital Adequacy (Beta = 0.53,  $p < .01$ ) had a higher impact on the CAMEL ratio while Asset Quality (Beta = 0.20,  $p < .01$ ), Earnings (Beta = 0.08,  $p < .01$ ) and Liquidity (Beta = 0.11,  $p < .01$ ) have a relatively lower impact on the dependent variable. The VIF (Tolerance) test confirms there was no multicollinearity in the multiple linear regression model, as all the variables meet the Tolerance threshold of  $0.1 < VIF < 10$ .

**E. Financial Performance Panel Data Normality Test**

Normality of Financial Performance data was tested using the Kolmogorov-Smirnov goodness of fit test as well as the Shapiro-Wilk test, which is a more robust test of normality. The results are presented in Table 7 below:

**Table 7: Normality Test for Financial Performance Data**

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Capital Adequacy	.250	209	.200*	.850	209	.158
Asset Quality	.151	209	.200*	.912	209	.332
Management Capacity	.224	209	.200*	.875	209	.138

Earnings	.211	.209	.200*	.913	.209	.455
Liquidity	.097	.209	.200*	.975	.209	.488
CAMEL Ratio	.250	.209	.200*	.850	.209	.158

\*. This is a lower bound of the true significance.

Source: Research Data (2016)

The results, as shown in Table 7, indicate that all the components of financial performance had Shapiro-Wilk probability  $> .05$  indicating that the Financial Performance data follow a normal distribution.

**F. Corporate Governance Panel Data Independence Test**

The Durbin -Watson (1951) statistic was used to test the autocorrelation in the Firm Characteristics panel data. The results are presented in Table 8 below:

**Table 8. Results of Corporate Governance Panel Data Independence Test**

Predictor	R	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
Board Composition	.351 <sup>a</sup>	.123	.8030690	1.751
Board Independence	.351 <sup>a</sup>	.123	.8030690	1.751
Board Size	.033 <sup>a</sup>	.001	.1193073	2.148

a. Dependent Variable: Composite Corporate Governance - (IND VAR)

Source: Research Data (2016)

As shown in Table 8, the Durbin-Watson statistic ( $d = 1.751$ ) for Board Composition and Board Independence and Board Size ( $d = 2.148$ ) lies within the threshold of  $1.5 < d < 2.5$ ; thus, there was no linear auto-correlation between the Corporate Governance attributes.

**G. Corporate Governance Panel Data Linearity Test**

The ANOVA test of linearity was used to test the linearity of the Corporate Governance panel data. The test computed both the linear and nonlinear components of a pair of Corporate Governance variables. Nonlinearity was considered significant if the computed F value for the nonlinear component was below 0.05. The results are presented in Table 9 below.

**Table 9. Results of Corporate Governance Data Linearity (ANOVA) Test**

			Sum of Squares	df	Mean Square	F	Sig.
Board Composition	Between Groups	(Combined)	32.810	21.00	1.56	0.76	0.77
		Linearity	0.43	1.00	0.43	0.21	0.65
		Deviation from Linearity	32.38	20.00	1.62	0.79	0.73
Within Groups			387.190	387.19	188.00	2.06	



Total			420.00	420.00	209.00		
Board Independence	Between Groups	(Combined)	32.81	21.00	1.56	0.76	0.77
		Linearity	0.43	1.00	0.43	0.21	0.65
		Deviation from Linearity	32.38	20.00	1.62	0.79	0.73
Within Groups			387.19	387.19	188.00	2.06	
Total			420.00	420.00	209.00		
Board Size	Between Groups	(Combined)	15.61	9.00	1.74	0.86	0.56
		Linearity	0.01	1.00	0.01	0.00	0.96
		Deviation from Linearity	15.61	8.00	1.95	0.97	0.47
Within Groups			404.38	404.39	200.00	2.02	
Total			420.00	420.00	209.00		

Source: Research Data (2016)

The ANOVA results in Table 9 above show that values of the significance of Deviation from linearity of  $p > .05$  imply a linear relationship exists between the variances of Board Composition, Board Independence and Board Size.

**H. Corporate Governance Panel Data Multicollinearity Test**

The presence of multicollinearity in the Corporate Governance panel data was assessed using the VIF (Tolerance) test. The results are presented in Table 10 below:

**Table 10. Results of Corporate Governance Data Multicollinearity Test**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1(Constant)							
Board Size (BS)	0.33	0.00		312.77	0.00	1.00	1.00
2(Constant)							
Board Size (BS)	0.33	0.00		314.85	0.00	0.83	1.20
Board Composition (BC)	0.90	0.00	1.00	730.07	0.00	0.83	1.20
3(Constant)							
Board Size (BS)	0.34	0.00		180.69	0.00	0.82	1.22
Board Composition (BC)	0.90	0.00	1.00	793.82	0.00	0.14	7.34

Board Independence (BIND)	0.04	0.01	-0.02	-6.49	0.00	0.15	6.90
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a. Dependent Variable: Composite Corporate Governance - (IND VAR)

Source: Research Data (2016)

In the stepwise multiple linear regression analysis, there were highly statistically significant beta coefficients. When Composite Risk Management was predicted, it was found that Board Size (Beta = -0.998,  $p < .01$ ) had a high impact on the dependent variable compared to Board Composition (Beta = -.021,  $p < .01$ ) and Board Independence (Beta = -.019,  $p < .01$ ). There was no multicollinearity in the Corporate Governance data as the Tolerance threshold of  $> 0.1$  (or  $VIF < 10$ ) was met.

**I. Corporate Governance Panel Data Normality Test**

Normality of the Corporate Governance data was assessed using the goodness of fit test, the Kolmogorov-Smirnov test, as well as the more robust test of normality, Shapiro-Wilk test. A non-linear transformation, log transformation, was used to fix data that were not normally distributed. The results are presented in Table 11 below:

**Table 11. Corporate Governance Panel Data Normality Test**

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Board Composition	.26	210	.200*	.905	210	.404
Board Independence	.203	210	.200*	.877	210	.294
Board Size	.254	210	.200*	.914	210	.492

a. Lilliefors Significance Correction

Source: Research Data (2016)

Table 11 above shows that all the components of corporate governance had a Shapiro-Wilk test  $p > .05$  indicating the data was drawn from a normally distributed population.

**J. Summary Statistics of the Diagnostic Tests**

The summary statistics of the diagnostics test of the five assumptions (Normality, Linearity, Independence, Homogeneity and Collinearity), the thresholds and the values computed for all the four variables of the study are presented in Table 12 below. A brief discussion then follows.

**Table 12. Summary of Diagnostic Tests**

Variable	Assumption (Test)	Normality (Shapiro-Wilk)	Linearity (ANOVA)	Independence (Durbin-Watson)	Homogeneity (Levene)	Collinearity (Tolerance)
	Attribute	$p > 0.05$	$p > 0.05$	$1.5 < d < 2.5$	$p > 0.05$	VIF 10 max

Corporate Governance	Board Composition	.404	.728	1.75	.942	1.22
	Board Independence	.294	.728	1.75	.942	7.34
	Board Size	.492	.465	2.15	.999	6.90
Bank Financial Performance	Capital Adequacy	.158	.068	2.09	.084	1.18
	Asset Quality	.332	.980	1.66	.442	1.80
	Management Efficiency	.138	.292	2.12	.906	1.77
	Earnings	.455	.475	1.93	.748	1.20
	Liquidity	.488	.882	1.88	.417	1.03

Source: Research Data (2016)

**K. Correlation between Corporate Governance and Composite Financial Performance**

Correlation analysis is used to measure the strength of a linear association between two variables. The Pearson correlation coefficient, denoted as r, can take values ranging from -1 to +1. According to Cooper and Schindler (2003), a value of -1 indicate perfect negative correlation, which implies that an increase in one variable is followed by a proportionate decrease in the other variable, while a value less than zero indicates a negative association between the two variables implying that as the value of one variable increases, the value of the other variable decreases and vice versa. A value of zero indicates no association exists between the two variables. Any value of r greater than 0 indicates a positive association between the variables implying that as the value of one variable increases, the value of the other variable equally increases.

A value of the correlation coefficient of 1 designates perfect positive correlation, which implies that an increase/decrease in one variable is followed by a proportionate increase/decrease in the other variable. The value of the Pearson correlation Coefficient will be closer to either +1 or -1, the stronger the association between the two variables. Sekaran (2006) states that Pearson's correlation is used if the variables of the study are measured using either interval or ratio scales. In this study, the correlation results are reported at a significance level of 0.05 and 0.01, consistent with other studies such as Magutu (2012) and Munjuri (2012).

The strength of the relationship between composite bank Financial Performance (measured by the CAMEL score) and Corporate Governance indicators (Board Composition, Board Independence, Board Size) was investigated using Pearson product-moment correlation. The results were as shown in

Table 13 below:

**Table 13. Correlation between Corporate Governance and Financial Performance**

		Capital Adequacy	Asset Quality	Management Capacity	Earnings	Liquidity	CAMEL Ratio
Board Size	r	-.263**	-.164*	.200**	.134	.002	.001
Board Composition	r	.074	.160*	-.127	.114	-.013	-.031
Board Independence	r	-.052	-.341**	-.051	-.101	.019	-.143*

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

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

Source: Research Data (2016)

Table 13 above shows a statistically significant negative correlation between Board Size and Capital Adequacy (r = -.263, p<.01), meaning that the capital adequacy in a bank declines as the board size increases. These results were to those of Board Size and Asset Quality (r = -.164, p<.05). There was a positive correlation between Board Size and Management Capacity (r = .200, p<.01), indicating that the size of the board improved the management efficiency. Similarly, the composition of the board improved asset quality (r = .160, p<.05) but board independence (r = -.341, p<.01) had the opposite effect on asset quality. There was a significant negative correlation between Board Independence and Financial Performance (CAMEL Ratio) (p<.05). It can therefore be concluded that the more the Board became independent, the poorer the financial performance.

**VIII. HYPOTHESIS TESTING AND DISCUSSION OF FINDINGS**

**A. Introduction**

This chapter presents the results of the tests of the four null hypotheses in the study and their interpretations. The null hypothesis tested the effect of corporate governance and bank financial performance (and its indicators). Tests of goodness of fit, including the adjusted coefficient of determination ( $R^2$ ), t-tests, standard error of estimate (Se) and ANOVA, are also presented. The section concludes with a discussion of findings on each of the hypotheses tested.

**B. The Effect of Corporate Governance on Bank Financial Performance**

The objective examined the effect of Corporate Governance on bank Financial Performance. The attributes of Corporate Governance Consisted of Board Composition, Board Independence, and Board

Size, while the those of Financial Performance were based on the CAMEL model (Capital Adequacy, Asset Quality, Management Efficiency, Earnings, Liquidity and the CAMEL ratio). The indicators were based on data obtained from the published annual accounts of the banks and CBK Bank Supervision and Banking Sector Annual Reports. The first null hypothesis tested was stated as follows:

*H<sub>1</sub>: The Relationship between Corporate Governance and Financial Performance of Commercial Banks in Kenya is Not Significant.*

The above hypothesis sought to establish the effect of corporate governance on the financial performance of commercial banks in Kenya. Three steps were used in carrying out the hierarchical multiple regressions, with the first step involving regressing the Financial Performance against Board Composition; the second involving regressing Financial Performance against Board Composition and Board Independence, while the third step involved regressing Financial Performance against Board Composition, Board Independence and Board Size. The null sub hypothesis was:

*H<sub>1a</sub>: The Relationship between Corporate Governance and Capital Adequacy of Commercial Banks in Kenya is Not Significant.*

The hypothesis was divided into six sub hypotheses to consider the individual (attributes) bank Financial Performance measures (Capital Adequacy(C), Asset Quality (A), Management Capacity (M), Earnings (E), and Liquidity (L)) and the composite measures of bank Financial Performance measure (CAMEL ratio, FP). The hypothesis was tested by using a modified multiple regression model as described in chapter three was as follows:

$$C = \beta_0 + \beta_1 BC + \beta_2 BS + \beta_3 BI + \epsilon_i$$

The results were as presented in Table 14 below:

**Table 14. Effect of Corporate Governance on Capital Adequacy**

Variable	$\beta$	S.E	Std. $\beta$	t	R	R <sup>2</sup>	$\Delta$ R <sup>2</sup>	F
Model 1					.09	.00	.00	1.7
Constant	.27	.02		11.58**				
Board Composition	-.05	.03	-.09	-1.31				
Model 2					.25	.06	.05	7.1
Constant	.39	.04		9.57*				
Board Composition	-.02	.04	.04	.47				
Model 3					.25	.06	.05	4.7
Constant	.39	.05		7.93*				
Board Composition	-.02	.05	.03	.35				
Board Size	-.18	.05	-.27	-3.53*				
Board Independence	-.02	.08	.00	-.02				

Board Size	-.18	.05	-.27	-3.53*				
Board Independence	-.02	.08	.00	-.02				

Note: \*p < .05, \*\*p < .01  
 Dependent Variable: Capital Adequacy  
 Source: Research Data (2016)

As shown in Table 14 above, a three-stage hierarchical multiple regression was conducted with Capital Adequacy as the dependent variable. Board Composition was entered at stage one (Model 1), Board Size and Board Independence were entered at stage two (Model 2) and in stage three (Model 3), Board Size and Board Independence and Board Independence were all entered in the regression analysis.

The results show that Board Composition had no effect on Capital Adequacy (F = 1.72, p > .05), explaining only 0.8% of the Capital Adequacy (R<sup>2</sup> = .008). The addition of Board Size significantly changed the result leading to the conclusion that Board Composition and Board Size explains a significant amount (6.5%) of Capital Adequacy (F = 7.19, p < .05, R<sup>2</sup> = .065,  $\Delta$ R<sup>2</sup> = .056). However, the addition of Board Independence at stage three did not change the result significantly (F = 4.77, p < .05, R<sup>2</sup> = .065,  $\Delta$ R<sup>2</sup> = .052), but the relationship remained statistically significant. The results show that the beta coefficient of the constant ( $\beta$  = 0.39), the line of best fit for the final model, was statistically significant. The beta coefficients for Board composition, Board Size and Board Independence in model 3 were .02, -.18 and -.02, respectively. The t value (slope coefficient / standard error) for Board Size was = -3.53, which was statistically significant (p < .05). The results show that Corporate Governance significantly predicts Capital Adequacy. The null sub hypothesis is therefore rejected.

The second null sub hypothesis was:

*H<sub>1b</sub>: The Relationship between Corporate Governance and Asset Quality of Commercial Banks in Kenya is Not Significant.*

This hypothesis was tested by using a multiple regression model as described in chapter three was as follows:

$$A = \beta_0 + \beta_1 BC + \beta_2 BS + \beta_3 BI + \epsilon_i$$

The results were as presented in Table 15 below:

**Table 15. Effect of Corporate Governance on Asset Quality**

Vari ables	$\beta$	S E	Std. $\beta$	t	l 1	l 2	$\Delta$ R <sup>2</sup>	F
Model 1					.1 0	.0 1	.01	2.08
Constant	.0 6	.0 1		6.61 **				
Board Composi tion	-.0 2	.0 1	-.10	-1.44				
Model 2					.1 7	.0 3	.02	2.87
Constant	.0 8	.0 2		5.28 **				
Board Composi tion	-.0 1	.0 1	-.03	-.39				
Board Size	-.0 4	.0 2	-.15	-1.91				
Model 3					.6 1	.3 8	.37	41.1 0**
Constant	.0 1	.0 2		-.52				
Board Composi tion	.0 9	.0 2	.51	6.31 **				
Board Size	-.0 4	.0 2	-.17	2.73 *				
Board Indepen dence	.2 85	.2 7	.79	10.7 0**				

Note: \*p < .05, \*\*p < .01  
 Dependent Variable: Asset Quality  
 Source: Research Data (2016)

In Table 15, a three-stage hierarchical multiple regression was conducted with Asset Quality as the dependent variable. Board Composition was entered at stage one, Board Size at stage two and Board Independence stage three. The results show that Board Composition had no effect on Asset Quality (F= 2.08, p>.05). The addition of Board size added an insignificant effect (F= 2.87, p>.05) while the inclusion of Board Independence at stage three changed the result significantly (F= 41.10, p<.01, R<sup>2</sup>=.38,  $\Delta$ R<sup>2</sup>=.37). The results of the overall model show that Corporate Governance (especially Board Independence attribute) significantly predicts Asset Quality (38%).

The slope (Beta coefficients) for Board Composition and Board Independence in stage three were positive,  $\beta$ =.09 and  $\beta$ =2.85 respectively, while Board Size was negative,  $\beta$ = -.04. Similarly, the t values for Board composition and Board Independence were highly significant (p<.01), while Board Size was also statistically significant at p<.05. Thus the three variables (collectively) were good predictors of Asset Quality. The null hypothesis that

the relationship between Corporate Governance and Asset Quality of Commercial Banks in Kenya is not significant is therefore rejected.

The third null sub hypothesis was:

*H<sub>1c</sub>: The Relationship between Corporate Governance and Management Capacity of Commercial Banks in Kenya is Not Significant.*

This hypothesis was tested by using a multiple regression model as described in chapter three as follows:

$$M = \beta_0 + \beta_1 BC + \beta_2 BS + \beta_3 BI + \epsilon_i$$

The results were as presented in Table 16 below:

**Table 16. Effect of Corporate Governance on Management Efficiency**

Variabl es	$\beta$	S E	Std. $\beta$	t	l 1	l 2	$\Delta$ R <sup>2</sup>	F
Model 1					.1 8	.0 3	.03	6.65 *
Constant	.6 8	.0 4		18.5 2**				
Board Composi tion	.1 4	.0 5	.18	2.58 *				
Model 2					.2 2	.0 5	.04	5.21 *
Constant	.5 8	.0 7		8.78 **				
Board Composi tion	.0 9	.0 6	.11	1.40				
Board Size	.1 6	.0 8	.15	1.92				
Model 3					.5 0	.2 5	.24	23.2 1**
Constant	.2 8	.0 7		4.00 **				
Board Composi tion	.4 1	.0 7	.52	5.93 **				
Board Size	.1 4	.0 7	.13	1.91				
Board Indepen dence	.9 41	.1 26	.61	7.51 **				

Note: \*p < .05, \*\*p < .01  
 Dependent Variable: Management Efficiency  
 Source: Research Data (2016)

Table 16 above shows the results of the three-stage hierarchical multiple regression was conducted with Management Capacity as the dependent variable where Board Composition was entered at stage one, Board Composition and Board Size entered at stage two and finally Board Composition, Board Size and Board Independence entered at stage three.

The results show that Board Composition had a statistically significant effect on Management Capacity (F= 6.65, p<.05, R<sup>2</sup>=.03,  $\Delta$ R<sup>2</sup>=.03 ). The addition of Board Size in step 2 increased the significance of the model (F= 5.21, p<.05, R<sup>2</sup>=.05,  $\Delta$ R<sup>2</sup>=.04 ), and inclusion of Board Independence at stage three increased the significance of the overall model (F= 23.21, p<.01,

R<sup>2</sup>=.25, ΔR<sup>2</sup>=.24). The results of the overall model show that Corporate Governance significantly predicts Management Capacity (25%).

The slope for Board Composition, Board Size and Board Independence in stage three were positive, β=.41, β=.14 and β=9.41, respectively, making Board Independence the largest contributor in the regression. The t values for Board composition and Board Independence were highly significant (p<.01), while the t value for Board Size was not significant. The null hypothesis, which states that the relationship between Corporate Governance and Management Capacity of Commercial Banks in Kenya is not significant, is rejected.

The fourth null sub hypothesis was:

*H<sub>1d</sub>: The Relationship between Corporate Governance and Earnings of Commercial Banks in Kenya is Not Significant.*

This hypothesis was tested by using a multiple regression model below:

$$E = \beta_0 + \beta_1 BC + \beta_2 BS + \beta_3 BI + \epsilon_i$$

The results were as presented in table 17 below:

**Table 17. Effect of Corporate Governance on Earnings**

Variables	β	SE	Std. β	t	R	R <sup>2</sup>	Δ R <sup>2</sup>	F
Model 1					.099	.10	.005	2.049
Constant	.029	.004		7.905**				
Board Composition	-.008	.005	-.099	-1.431				
Model 2					.235	.055	.046	6.043*
Constant	.012	.006		1.872				
Board Composition	-.017	.006	-.212	-2.768*				
Board Size	.025	.008	.242	3.154*				
Model 3					.238	.057	.043	4.098*
Constant	.014	.008		1.830				
Board Composition	-.019	.008	-.243	-2.469*				
Board Size	.025	.008	.243	3.163*				
Board Independence	.070	.039	.046	1.771				

Note: \*p < .05, \*\*p < .01  
 Dependent Variable: Earnings  
 Source: Research Data (2016)

A three-stage hierarchical multiple regression was conducted with Earnings as the dependent variable. Board Composition was entered at stage one, Board Composition and Board Size at stage two finally Board Composition, Board Size and Board Independence entered at stage three.

The results show that Board composition had no statistically significant effect on Earnings (F = 2.049, p>.05, R<sup>2</sup>=.010, ΔR<sup>2</sup>=.005). The addition of Board size in step 1 (F= 6.043, p<.05, R<sup>2</sup>=.055, ΔR<sup>2</sup>=.046) and Board independence at stage three increased the significance of the overall model (F= 4.098, p<.05, R<sup>2</sup>=.057, ΔR<sup>2</sup>=.043). The results of the overall model show that Corporate Governance significantly predicts Earnings (5.7%).

The slope for Board Composition and Board Independence in stage three were negative, β=-.02 and β=-.07 respectively, while that of Board Size was positive, β=.03. The t values for Board composition and Board Size were statistically significant (p<.05), while the beta coefficient of Board Independence was not significant. From the overall results in model 3, the null hypothesis, which stated that the relationship between Corporate Governance and Earnings of Commercial Banks in Kenya is not significant, is rejected. The fifth null sub hypothesis was:

*H<sub>1e</sub>: The Relationship between Corporate Governance and Liquidity of Commercial Banks in Kenya is Not Significant.*

This hypothesis was tested by using a multiple regression model below:

$$L = \beta_0 + \beta_1 BC + \beta_2 BS + \beta_3 BI + \epsilon_i$$

The results were as presented in Table 18 below:

**Table 18. Effect of Corporate Governance on Liquidity**

Variab les	β	SE	Std. β	t	R	R <sup>2</sup>	Δ R <sup>2</sup>	F
Model 1					.10	.00	-.01	.020
Constant	.051	.000		107.9**				
Board Composition	9.989	.001	.010	.143				
Model 2					.10	.00	-.01	.11
Constant	.051	.001		59.83**				
Board Composition	-.000	.001	.011	-.139				
Board Size	2.818	.001	-.002	-.027				
Model 3					.20	.00	-.01	.28
Constant	.051	.001		49.64**				
Board Composition	5.020	.001	-.005	-.049				
Board Size	1.998	.001	-.001	-.019				
Board Independence	-.005	.018	-.023	-.252				

Note: \*p < .05, \*\*p < .01  
 Dependent Variable: Liquidity  
 Source: Research Data (2016)

A three-stage hierarchical multiple regression (Table 18 above) was conducted with Liquidity as the dependent variable. Board Composition was entered at stage one, Board Composition and Board Size at stage two and Board Composition, Board Size Board Independence stage three.

The results show that Board Composition, Board Size and Board Independence did not contribute significantly at any stage of the regression ( $p > .05$ ). This is attributed to the fact that Liquidity is generally a constant explaining the reason the intercept is highly statistically significant ( $P < .01$ ) in the three models. As none of the variables has significant t values, the significance of the beta coefficient values cannot be analysed further. The null hypothesis: The relationship between Corporate Governance and Liquidity of Commercial Banks in Kenya is not significant is not rejected.

The sixth null sub hypothesis was:

*H<sub>1f</sub>: The Relationship between Corporate Governance and Composite Financial Performance of Commercial Banks is Not Significant.*

This hypothesis was tested by using a multiple regression model below:

$$FP = \beta_0 + \beta_1 BC + \beta_2 BS + \beta_3 BI + \epsilon_i$$

The results were as presented in Table 19 below:

**Table 19. Effect of Corporate Governance on Composite Financial Performance (CAMEL ratio, FP)**

Variables	$\beta$	SE	Std. $\beta$	t	R	R <sup>2</sup>	$\Delta$ R <sup>2</sup>	F
Model 1					.078	.006	.001	1.273
Constant	.216	.09		24.18**				
Board Composition	.015	.013	.078	1.13				
Model 2					.085	.007	.002	.761
Constant	.223	.016		13.83**				
Board Composition	.018	.015	.096	1.23				
Board Size	-.010	.020	-.039	-5.0				
Model 3					.502	.252	.241	23.145**
Constant	.145	.017		8.59**				
Board Composition	.104	.017	.544	6.24**				
Board Size	-.014	.017	-.057	-8.3				
Board Independence	.247	.032	.662	8.21**				

dence

Note: \* $p < .05$ , \*\* $p < .01$   
 Dependent Variable: CAMEL Ratio  
 Source: Research Data (2016)

A three-stage hierarchical multiple regression was conducted with CAMEL Ratio as the dependent variable. Board Composition was entered at stage one, Board Composition and Board Size at stage two Board Composition, Board Size and Board Independence at stage three.

The results show that Board Composition and Board size, entered at stage one and two respectively had no statistically significant effect on CAMEL Ratio with the inferential statistics for model 1 and model 2 as ( $F = 1.273$ ,  $p > .05$ ,  $R^2 = .060$ ,  $\Delta R^2 = .001$ ) and ( $F = .761$ ,  $p > .05$ ,  $R^2 = .007$ ,  $\Delta R^2 = -.002$ ) respectively. The inclusion of Board independence in step 3 increased the significance of the overall model ( $F = 23.145$ ,  $p < .01$ ,  $R^2 = .252$ ,  $\Delta R^2 = .241$ ). The results of the overall model show that Corporate Governance significantly predicts 25.2% of CAMEL Ratio, with Board Independence being the largest contributor.

The slope for Board Composition and Board Independence in stage three were positive,  $\beta = .104$  and  $\beta = 2.477$  respectively, while that of Board Size was negative ( $\beta = -.014$ ). Similarly, the t values for Board composition and Board Independence were highly statistically significant ( $p < .01$ ) while Board Independence was not ( $p > .05$ ). Thus the null hypothesis, which stated that the relationship between Corporate Governance and Composite Financial Performance (CAMEL Ratio) of Commercial Banks in Kenya is not significant, is rejected.

**C. Discussion of the Hypotheses Tests and Research Findings**

The objective of this study was to determine the effect of Corporate Governance on the Financial Performance of commercial banks in Kenya. The three attributes of Corporate Governance used in the study were Board Composition, Board Independence and Board Size, while the indicators of Financial Performance were based on the CAMEL model, namely, Capital Adequacy, Asset Quality, Management Capacity, Earning Ability, Liquidity and the composite CAMEL ratio. The detailed results are shown in Table 5.25 below. The findings were that: the relationship between Corporate Governance and Capital Adequacy of Commercial Banks in Kenya is significant ( $F = 41.10$ ,  $p < .01$ ,  $R^2 = .38$ ,  $\Delta R^2 = .37$ ), the relationship between Corporate Governance and Asset Quality of Commercial Banks in Kenya is significant ( $F = 41.10$ ,  $p < .01$ ,  $R^2 = .38$ ,  $\Delta R^2 = .37$ ), the relationship between Corporate Governance and Management Capacity of commercial Banks in Kenya is significant ( $F = 23.21$ ,  $p < .01$ ,  $R^2 = .25$ ,  $\Delta R^2 = .24$ ), the relationship between Corporate Governance and Earnings of Commercial

Banks in Kenya is significant ( $F= 4.10$ ,  $p<.05$ ,  $R^2=.057$ ,  $\Delta R^2=.043$ ), the relationship between Corporate Governance and Liquidity of Commercial Banks in Kenya is not significant ( $F= 4.10$ ,  $p<.05$ ,  $R^2=.057$ ,  $\Delta R^2=.043$ ), and the relationship between Corporate Governance and CAMEL ratio of Commercial Banks in Kenya is significant ( $F= 23.15$ ,  $p<.01$ ,  $R^2=.252$ ,  $\Delta R^2=.241$ ). Except for the Liquidity measure of Financial Performance (that is generally set by the CBK), Corporate Governance has a statistical relationship with the Financial Performance of commercial banks in Kenya, leading to the rejection of the null hypothesis.

The results are consistent with previous studies that found a positive relationship between Corporate Governance and Financial Performance (Rechner & Dalton, 1991; Brown & Caylor, 2004; Naushad & Malik, 2015). However, the results were inconsistent with past studies that found no significant relationship between Corporate Governance and Financial Performance (Aluchna, 2009; Klein et al., 2005) and those that found a negative relationship between Corporate Governance and Financial Performance (Beltratti & Stulz, 2012; Erkens et al., 2012).

## IX. SUMMARY, CONCLUSION AND RECOMMENDATIONS

The objective of the study was to determine the effect of Corporate Governance on the Financial Performance of commercial banks in Kenya. The study established that a statistically significant relationship exists between Corporate Governance and bank Financial Performance attributes except for Liquidity.

### A. Summary of Findings

The hypothesis ( $H_1$ ) investigated the relationship between Corporate Governance and the Financial Performance of commercial banks in Kenya. The results of hierarchical multiple regression analysis were that there was a statistically significant relationship ( $p<.05$ ) between Corporate Governance and all the attributes of Financial Performance except Liquidity. Further, there was a statistically significant relationship ( $p<.05$ ) between Corporate Governance and the composite measures of Financial Performance (CAMEL ratio). In general, it can be concluded that there is a statistically significant relationship between corporate governance and bank financial performance; thus, null hypothesis one was rejected.

### B. Conclusion

The study concludes that corporate governance affects bank financial performance; risk management did not influence the relationship between corporate governance and bank financial; firm characteristics

had an effect on the relationship between corporate governance and bank financial performance and finally, corporate governance, risk management and firm characteristics jointly affected bank financial performance. The study concludes that corporate governance significantly influences the bank financial performance of commercial banks. The implication is that corporate governance is a key driver on bank Financial Performance.

### C. Contribution to Knowledge

The study has provided additional evidence to resolve the contradictory findings on the previous studies done on the relationships between Corporate Governance and Financial Performance. The relationship may not be direct but either intervened/moderated by Risk Management depending on the attributes used in the study. These findings can help resolve the contradictory findings from previous studies on the relationship between Corporate Governance and Firm Performance. Whereas some studies found a positive relationship (Rechner & Dalton, 1991; Brown & Caylor, 2004; Naushad & Malik, 2015), others found a negative relationship (Beltratti & Stulz, 2012; Erkens et al., 2012) yet another study found no significant relationship (Aluchna, 2009). The current study also finds a statistically significant relationship between Corporate Governance and all attributes of bank Financial Performance (except Liquidity). The current study proposes that the effect of Corporate Governance on bank Financial Performance can be understood by evaluating the intervening and moderating effects of Risk Management and Firm Characteristics, respectively.

### D. Limitations of Study

The study adopted a descriptive research design since it had clearly stated hypotheses or investigative questions. The design, however, has the disadvantage that it cannot establish causality among variables. Thus while the study could establish the direction and nature of relationships among variables, it could not establish the causality effects among the variables.

### E. Suggestions for Further Research

The focus of the current study were commercial banks in Kenya. A similar study could be replicated for other financial institutions like insurance companies, housing finance companies, microfinance institutions and foreign exchange bureaus. Finally, the study could be replicated in other countries regionally and internationally. This would further validate the findings of the current and future studies

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