Theoretical Economics Letters, 2023, 13, 1036-1059
https://www.scirp.org/journal/tel
ISSN Online: 2162-2086
ISSN Print: 2162-2078

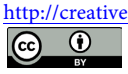
Do Audit Committees and Corporate Governance Mechanisms Affect the Bank's Performance? Empirical Evidence from Panel Data Analysis

Ivy Eklemet[1], Ibrahim Mohammed[2], Emmanuel Gyamera[3], Deborah Adu Twumwaah[4]

[1]Department of Accounting, University of Professional Studies, Accra, Ghana
[2]Research & Consultancy Centre, University of Professional Studies Accra, Accra, Ghana
[3]Department of Accounting, University of Professional Studies, Accra, Ghana
[4]Department of Banking and Finance, University of Professional Studies, Accra, Ghana
Email: eklemet.ivy@upsamail.edu.gh, ibrahim.mohammed@upsamail.edu.gh, emmanuel.gyamera@upsamail.edu.gh, deborah.adu@upsamail.edu.gh

How to cite this paper: Eklemet, I., Mohammed, I., Gyamera, E., & Twumwaah, D. A. (2023). Do Audit Committees and Corporate Governance Mechanisms Affect the Bank's Performance? Empirical Evidence from Panel Data Analysis. *Theoretical Economics Letters, 13,* 1036-1059.
https://doi.org/10.4236/tel.2023.134057

Received: June 14, 2023
Accepted: August 19, 2023
Published: August 22, 2023



Abstract

This paper assessed the effect of audit committee independence and corporate governance mechanism on a bank's performance. A quantitative research method was adopted to collect secondary data from 20 licensed banks in Ghana from 2013 to 2022, giving a total of 200 observations for this study. Panel data regression analysis revealed that audit committee independence and corporate governance mechanism accounted for 77.83% of the variation of the bank's performance for the period under study. Furthermore, the study revealed a significant and positive relationship between CEO-non-duality, non-executive director, audit committee independence, and the bank's performance. The study recommends that the chairman of both the board and audit committee should be independent directors and any offending firm who violated this provision should be fined.

Keywords

Audit Committee Independence, Bank's Performance, Corporate Governance, Non-Executive Director, Board Size

1. Introduction

The need to strengthen corporate governance principles within the business environment is due to the increasing conflict of interest arising from the princip-

al-agent relationship. The Basel Committee on Banking Supervision (BCBS) lays prominence on the significance of good corporate mechanisms for banks to build trust and confidence among the owners and the general public at large. Banks are deposit-taking institutions are therefore are highly leveraged and therefore, need to stay away from unpleasant occurrences through effective corporate governance mechanisms. Better corporate governance promotes transparency and provides adequate checks and balances between the principal and agent interests through the monitoring of the board. According to Barton, Coombes, and Wong (2004), good corporate governance practice is an important element in attracting investors, and investors are willing to pay a premium of up to 25% for a well-governed firm.

Most of the reported cases of corporate failures are ascribed to bad corporate governance practices (Appiah, 2013). Corporate governance failure was identified as one of the causes that led to the recent banking crisis leading to the revocation of six strings of banks in Ghana by the Bank of Ghana in 2018 that were licensed under Act, 2016 (Act 930). It was reported that one of the reasons for the revocation of banking license by the Bank of Ghana in 2018 was due to poor corporate governance practices by the banks. The purpose of the revocation is to ensure safety, stability, and soundness in the financial systems of Ghana and to protect the depositors' interests (Bank of Ghana [BoG], 2018). Some of the weaknesses identified by the central banks of Ghana for collapsed banks are poor corporate governance, poor risk management, non-performing loans, undercapitalization, and regulatory lapses. To prevent future recurrence, the central bank put measures in place to restore the stability and resilience of the financial system in Ghana (Dwamena & Yusoff, 2022).

The need to strengthen corporate governance principles within the business environment is due to conflict of interest arising from the separation of ownership and management of the organization. The Corporate governance structures in the private sector focus on appropriate ways to manage and control a structure of an organization. In the following studies Claessens and Yurtoglu (2013), Love (2011), and Rajagopalan and Zhang (2008) opined that good corporate governance reduces agency cost, minimizes information asymmetry, lowers capital cost, builds trust for the stakeholders, and improves a firm's profitability and value. One of the ways advocated by policymakers and researchers to enhance good corporate governance practices is audit committee independence as a critical element of any corporate governance system (Al-Jalahma, 2022). Audit committee Independence (ACI) is considered one the most important in agency theory. The Bank of Ghana, the financial sector regulator, released a comprehensive corporate governance code for the banking industry. The release was christened "Corporate Governance Directive 2018". One of the provisions advocates for the establishment of an audit committee of the board which must consist of non-executive directors. The chairperson of the audit committee shall be an independent director. Members of the audit committee must be competent in ac-

counting, auditing, and finance and shall have oversight of the financial institution's internal and external audit function. In addition, the Companies Act, 1963 (Act 179) which primary governance structure in the private sector also undergone amendment, the Companies Act, 2019 (Act 992) as well as corporate governance regulations issued by the supervisory bodies like the Bank of Ghana and National Insurance Commission has enhanced corporate governance regimes in Ghana in recent times. It focuses on the appropriate way to manage and control a structure of an organization.

The agency theory espoused by Jensen and Meckling (1976) asserts that audit committees can mitigate the agency conflict associated with the principal-agent relationship. Scholars of agency theory believe audit can mitigate the agency conflict between the principal and agent. The main purpose for establishing an audit committee is to provide oversight over management in respect of the firm's financial reporting process, compliance with internal controls systems with laws and regulations, and internal and external audit processes. The audit committee is seen as a vital institution that assists the board of directors in terms of transparency and integrity in the financial reporting process (Klein, 2002). The audit committee has many avenues to monitor and control management information asymmetric to ensure owners get the right information for decision-making (Allegrini & Greco, 2013). Audit committee AC) is recognized globally as a very important governance mechanism for ensuring the integrity of the financial reporting and audit process are enhanced (DeZoort et al., 2002; Cohen et al., 2008). An audit committee (AC) is a very important component of good corporate governance. According to Dwamena (2021) audit committee is an essential part of good corporate governance and provides effective oversight of the objectivity, independence, and performance of the auditor and the audit quality work. AC supervises and oversees timely, appropriate, and relevant financial reporting and disclosure. Not surprisingly, market regulators including Ghana Stock Exchange have set in place certain standards or requirements designed to strengthen audit committee effectiveness. Therefore, strengthening the audit committee function can minimize this conflict between the principal and agent relationship.

Despite the theoretical importance of audit committees as advocated by agency theory that it would strengthen corporate governance mechanisms. The empirical evidence on the relationship was mixed and uncertain. Some studies found no significant relationship between audit committee independence and the firm's performance (Xie, Davidson, & DaDalt, 2013; Osevwe-Okoroyibo & Emeka-Nwokeji, 2021; Davidson, Goodwin-Stewart, & Kent, 2015). Studies found a positive and significant relationship between audit committee independence and the firm's performance (Amahalu & Ezechukwu, 2017) while these studies found a negative and significant relationship between audit committee independence and the firm's performance (Yang & Krishnan, 2005). The mixed outcome could be attributed to wrong estimation challenges often associated with violat-

ing regression assumptions, especially on omitted variables and unobserved heterogeneity challenges. Therefore, I am motivated to use a panel data estimator to handle the issue of unobserved heterogeneity challenges and to include control variables in the model to mitigate the issue of omitted variables in this study. This article will contribute to corporate governance literature in several ways. Firstly, it shows that having a corporate governance mechanism is not enough rather deepening the board and audit committee is paramount for ensuring there check and balance between the principal and agent relationship. For methodological contribution, the study included control variables to ensure the problem of omitted variables is addressed, and secondly, panel data regression was adopted to ensure the right model estimator is selected to control the heterogeneity challenges in this study. The rest of the paper is organized as follows: section 2 reviews related literature, section 3 looks at the data and research methodology issues, section four discusses the empirical findings and section five concludes and makes recommendations for the study.

2. Literature Review

This section reviewed pieces of literature on corporate governance mechanisms and the firm's performance. The reviews are in two sections. These are: 1) Theoretical review and 2) empirical review.

2.1. Theoretical Review

The main theory underlying this study is agency theory and it is discussed below in this study.

Agency Theory

Agency theory asserts that the ownership and control of firms are entrusted to different individuals, leading to the creation of a conflict of interest between the principal and agent or agency problem (Aguilera et al., 2008). The shareholders are the owners or the principal of the bank, they appoint managers (agents) to manage their banks with the expectation that managers would exploit the owners' interests. On the contrary, the managers (agents) may not take the best interests of the owners (Padilla, 2002). Underpinning the agency problem is the tendency of the agents to satisfy their ambition and forfeit the interest of the principal (Daily, Dalyon, & Cannella, 2003).

The managers (agents) may seek their personal desires or self-interest and opportunistic behaviour which fall short of the owners' aspirations or pursuits. Again, managers may seek unwarranted risks which act as a setback against the principal-agent relationship. To control this opportunistic behaviour of managers against the owners, agency theorists advocate the setting up of strong corporate governance structures to minimize the opportunistic behaviour of managers. This implies that managers cannot be trusted, and therefore Jensen and Meckling (1976) assert that since managers are constantly pursuing their inter-

ests then the entity should set up a strong corporate governance structure to mitigate the agency problem. Therefore, the idea of setting up a corporate governance structure is to align the goals of owners to that of managers and to set boundaries of effective governance (Jensen & Meckling, 1976). Lu and Zhu (2020) opined that establishing an effective board of directors to monitor management's interest and protect the owners' interest would overcome the problems of separation and ownership between principals and agents.

2.2. Empirical Review

Theoretically, both agency theory and resource dependency theories predict a positive causal relationship between corporate governance mechanism and the bank's performance and audit committee independence and the bank's performance. However, some empirical evidence on these studies was mixed and varied. This sub-section reviews some empirical results on corporate governance on the bank's performance and audit committee independence and the bank's performance in this study.

2.2.1. Empirical Review of Direct Effect between Corporate Governance and Bank's Performance

Corporate governance is a system used to assess accountability and provide an adequate internal control system for management. It focuses on creating and developing better corporate governance systems. Corporate governance is essential to create a culture of transparency, integrity, and accountability leading to the creation of value and financial wealth for the banks and the shareholders. Studies conducted on the relationship between corporate governance and performance has revealed mixed outcomes (Mak & Kusnadi, 2005; Detthamrong, Chancharat, & Vithessonthi, 2017). To date, pieces of the empirical literature on the relationship have no consensus among researchers agreement among researchers (Agrawal & Knoeber, 1996; Xu & Wang, 1997; Lehmann & Weigand, 2000; Gruszczynski, 2006; Berthelot et al., 2010). For instance, some of these studies reported a positive and significant relationship between corporate governance characteristics and bank performance (Brown & Caylor, 2006; Drobetz et al., 2004; Huang, 2007; Varshney et al., 2012). However, other studies have opined a negative relationship between corporate governance of the firm's performance (Doc-Ho & Nguyen, 2014).

2.2.2. Empirical Review of Direct Effect between Audit Committee Independence and Bank's Performance

The audit committee provides additional safeguards against fraud and ensures that the financial statements are prepared according to the standards. To enhance the work of the audit committee, the committee must be adequately independent and must have requisite qualifications and experience in accounting, auditing, and financial matters. An independent audit committee reduces the problems of information asymmetry, adverse selection, and moral hazard by

monitoring management (Aldamen et al., 2012). Audit Committee Independence means being more watchful, and more involved in the financial matters of the firm, to get the monitoring done effectively (Mohiuddin & Karbhari, 2010; Qeshta et al., 2021). The effectiveness of the audit committee members is usually seen through their independence, financial literacy, and expertise and allocating sufficient time to meet regularly to discuss financial and related party issues (Putrajaya Governance Committee [PGC], 2006). It is a true reflection of the firm's commitment to good corporate governance practices. Audit committee independence is a widely accepted idea that independent directors can effectively monitor management actions and minimize management opportunistic behavior that conflicts with the principal's interests. According to Mangena and Pike (2015), audit committee independence is more likely to minimize management influence. Previous opined there is a positive relationship between audit committee independence and performance (Klein, 2002; Mansi & Reeb, 2002).

3. Methodology

The study employed a quantitative method involving an ex-post facto design to collect data to test the hypotheses and assess the effect of audit committee characteristics on the bank's performance using panel data analysis. A purposive sampling methodology was adapted to select 20 banks from the 23 licensed banks from the Bank of Ghana from 2013 to 2022. The study used panel data to pools observations from a cross-sectional unit over ten years to facilitate the investigation of an effect that is not detectable in pure cross-sections or pure time-series studies. The advantage of using panel data analysis is that it can treat problems of omitted variables and unobserved heterogeneity issues usually associated with either pure cross-sectional data or pure time-series data. The analysis is done using STATA (i.e., statistics and analysis software) as the software for this study.

3.1. Research Variables

Three research variables used in this study are classified into broad categories: Dependent, independent, and control variables. The dependent variable was used to assess the bank's performance, the independent variables were used to assess the audit committee independence and corporate governance mechanisms, the control variables were used to control the potential effects on the bank's performance and to mitigate the problem of omitted variables.

3.1.1. Dependent Variable (i.e., NIM)

Net Interest Margin (NIM): NIM is the dependent variable used to operationalize bank's performance of banks. NIM is calculated as the ratio between received and paid interests, all over total assets. The ratio measures the margin a bank makes on its core business of the bank. The researchers used NIM as a proxy for measuring the efficiency in the banking sector. For formula for calculating NIM is expressed in Equation (1):

$$\text{NIM} = \frac{\text{Interest Received-Inteerest Paid}}{\text{Total assets}} \quad (1)$$

3.1.2. Independent Variables (i.e., ACI, CEO, Bsize, and NED)

Four variables were used as independent variables to assess the effect on the bank's performance these are Audit Committee Independent (ACI), CEO-duality (CEO), board size (Bsize), and non-executive director (NED). These are:

Audit committee Independence (ACI): Audit committee independence is the mediating variable in this study. Audit committee independence is seen as a vital institution that assists the board of directors in terms of transparency and integrity in the financial reporting process (Klein, 2002). The primary function of the establishment of the audit committee is to enhance the financial reporting quality.

The proxy for measuring the audit committee independence composition is the number of non-executive directors or outsider directors over the number.

ACI = No of Non-executive/No of directors on the audit committee

CEO-duality (CEO): CEO-duality eludes for circumstances where the CEO holds the positions as the Chairman of the board and the CEO of the firm at the same time as undesirable corporate governance practice. Cadbury Committee considers that one person should hold the CEO and another should hold the position of the Chairman of the board and not both. Given that many corporate governance experts find CEO duality an undesirable practice, many studies have found a negative relationship between ACI and the firm performance (…), even though there are some mixed outcomes in the literature. The separation of the position provides an opportunity to assess independently the performance of the CEO and the executive management to require better accountability from management (Ahulu & MacCarthy, 2019; Monks & Minow, 2004). The study equates a CEO-non-duality variable as "0" and when the CEO also serves as the Board Chairman else "1" if the position is handled by different persons.

Board Size (Bsize): The board size represents the number of directors on the board. A board size of seven or less is considered a small board and those above seven are considered a large board size. Empirical evidence between board size and the firm's performance was mixed. These studies revealed a positive relationship between board size and performance (Elsayed, 2011; Goodstein et al., 1994; Huang, 2007; Sanda, Mikailu, & Garba, 2010; Saravanan, 2012) while these studies revealed a negative relationship between board size and performance (Yermack, 1996; Eisenberg et al., 1998). The proxy for measuring the board size is the number of directors on the board.

Bsize = Number of board members

Non-Executive Director (NED): A high number of NED on the board represents board independence. Advocators of good corporate governance argue for a higher number of non-executive directors on the board enhances the independence of the board (Ahulu & MacCarthy, 2019). The proxy for measuring the

board composition is the number of non-executive directors or outsider directors on the board.

NED = No of Non-executive/No of directors on the board

3.1.3. Control Variables (i.e., Fsize and Growth)

Based on pieces of literature on the need to control the specific effect of corporate governance and the bank's performance, firm size, and growth are included in the regression model as control variables. Control variables affect dependent and independent variables; if not, control affects the study's outcome. The control variables used in this study are firm size and growth. According to Kiel and Nicholson (2003), firm size and growth co-vary with many pieces of literature on Corporate Governance and the Bank's performance nexus.

Bank Size (Size): The bank measures either the bank's economy of scale or diseconomies of scale for this study. Boone et al. (2007) asserted that as the firm size becomes more extensive and more diversified, the board size increases; therefore, more corporate advice and counsel are needed from the board. We expect the bank's size to affect the bank's performance positively (Lehn et al., 2004; Abbasi & Malik, 2015). As the bank size increases, the bank performance also increases significantly in the case of small and medium-sized banks in the banking sectors. The proxy for size is measured as the logarithm of the bank's total assets. The logarithm helps get the bank's total assets due to its capability to standardize values, thus bringing them to the same platform for more efficient analysis.

Growth: Growth represents the rate of growth of the firm. A growing firm can generate enough revenue to finance its operation and vice versa. A growing firm tends to contribute positively to the firm's performance and vice versa. Pandey (2007) concluded that growth positively correlates with a firm's performance. Park and Jang (2014) measured the growth using the current year's sales minus last year's sales divided by last year's sales and expressed it as a percentage change in annual sales.

Growth =
(Current year's revenue – Previous year's revenue)/Previous year's revenue

3.2. Model Specification

To estimate the effect of corporate governance and audit committee independence on the bank's performance, the study adopted an equation adopted similar to Hair, Black, Babin, Anderson, and Tatham (2006). The dataset for this analysis is taken from both cross-sectional and time series observation from the selected firms and it is organized to fit panel data. The advantage of using panel data instead of cross-sectional data or time series data is that it can resolve the problems of omitted variables and unobserved heterogeneity issues usually associated with either pure cross-sectional data or pure time-series data. The model was slightly modified in this study to include the firm's size and growth as a

control variable to mitigate the problem of omitted variables as in Equation (2):

$$\begin{aligned}\min_{it} = {} & \beta_0 + \beta_1 (\mathrm{CEO})_{it} + \beta_2 (\mathrm{ACI})_{it} + \beta_3 (\mathrm{Bsize})_{it} \\ & + \beta_4 (\mathrm{NED})_{it} + \beta_5 (\mathrm{Fsize})_{it} + \beta_6 (\mathrm{Growth})_{it} + \varepsilon_{it}\end{aligned} \tag{2}$$

where:

Min is the dependent variable of this study.

CEO, ACI, Bsize, NED, Fsize, and Growth are the independent and control variables in this study.

β_1, β_2, β_3, β_4, β_5 and β_6 are the regression coefficients to be estimated.

β_0 is the constant or the intercepts on the regression equation.

t = is the time series of the study (t = 1, 2, 3, 4…10).

i = is the cross-section (i.e., 18 firms from the banking sector of Ghana).

ε = Unique Error or Error Term.

3.3. Research Hypotheses Development

The following four hypotheses were espoused to assess the relationship between the audit committee, corporate governance mechanisms (CEO, ACI, Bsize, and NED) and the bank's performance (NIM) in this study:

H01: *There is no significant relationship between CEO non-duality* (*CEO*) *and the bank's performance* (*NIM*). *Hence CEO non-duality does not influence the bank's performance for the period selected for the study.*

H02: *There is no significant relationship between audit committee independence* (*ACI*)) *and the bank's performance* (*NIM*). *Hence audit committee independence do not influence and bank's performance* (*NIM*).

H03: *There is no significant relationship between board size* (*Bsize*) *and the bank's performance* (*NIM*). *Hence board size do not influence and bank's performance* (*NIM*).

H04: *There is no significant relationship between the non-executive director* (*NED*) *and the bank's performance* (*NIM*). *Hence non-executive director does not influence and bank's performance* (*NIM*).

Each of these hypotheses is accepted or rejected based on the outcome of panel data regression as an analytical tool involving the t-statistic combined with the *p*-value, at a 5% significance level, is used as the decision criteria.

4. Results and Discussion

This section presented the results of the main aim of this study and followed up the discussion of the results. The section is divided into four main subsections: Descriptive statistics, Pearson correlation analysis, Hausman test specification test, and the panel regression result.

4.1. Descriptive Statistics

To estimate the relationship between corporate governance practices and a firm's market value, descriptive statistics were used to present graphical summa-

ries of the relationship between the dependent, independent, and control variables. Table 1 presents the mean, standard deviation, minimum, maximum, Kurtosis, and Skewness of the dataset. Descriptive statistics analysis is used to identify any possible irregularities before inferential statistics.

The second column of Table 1 indicates the mean values for NIM, CEO, NED, Bsize, ACI, Size and growth were 0.084, 0.007, 0.753, 7.667, 0.628, 6.365, and 0.151 respectively, for the ten-year under-study. The mean value for NIM was 0.084 or 8.4%. The bank's net interest margin (NIM) indicates the bank's profitability and growth. The mean value of 8.4% is an appreciable performance of the banks within the period. Table 1 shows that CEO-non-duality was 0.07. This implies that most of the banks have separated the Chairman position from the CEO position and are also appointed externally to represent the Chair of the boards. Again, the mean value for Non-executive directors (NED) was 0.753 and it implies there was sufficient independence of the board of directors (Yesser, 2011; Harford et al., 2008). Table 1 shows the average board size was 7.667 and it implies that most of the firms listed in Ghana have an identical and average board size. An average board size (Bsize) is between 7 and 8 directors. A board size below seven is considered as small while a size above 10 is considered as large. The mean value for the Audit Committee Independence (ACI) was 0.628 and it indicates the degree of independence of the audit committee members of the board (Lin et al., 2006; Javeed & Azeem, 2014; Sheikh, Wang, & Khan, 2013).

The standard deviation measures the spread among the dataset and reveals how close or dispersed the variables are from the means of the dataset. The standard deviation for NIM, CEO, NED, Bsize, ACI, Size, and growth was 0.021, 0.003, 0.130, 1.686, 0.148, 0.997, and 0.609. A high standard deviation means dispersion from the mean is large, and the variable is volatile. In contrast, a low standard deviation implies the variable cluster around the mean and it is stable. The study observed that growth is the most volatile variable among the variable and followed after was net interest margin (NIM) for the period under study. However, CEO, NED, and ACI are the most stable in the dataset. Furthermore, Table 1 shows information about the Kurtosis and Skewness of the variables in the dataset. The Information on skewness and kurtosis determines whether the dataset met the normality assumption (Kline, 2011). The acceptable skewness values should be between −2 and +2, and the kurtosis should be between −7 and +7 when assessing normality in regression (Byrne, 2010; George & Mallery, 2010).

The result shows that NIM, CEO, NED, Bsize, ACI, Size, and Growth exhibit a positive skewness and are closer to zero. A positive skewness implies that the dataset is positively skewed and that the right tail is longer than the left. Therefore, the skewness for NIM, CEO, NED, Bsize, ACI, Size, and Growth is approximately symmetrical. The kurtosis for NIM, CEO, NED, Bsize, ACI, Size, and Growth were 3.327, 2.916, 3.130, 2.886, 3.004, 3.074, and 2.996, respectively.

Table 1. Descriptive statistics.

Variables	Mean	St. Dev.	Minimum	Maximum	Skewness	Kurtosis	J-B	Prob
NIM	0.084	0.021	0.016	1.855	0.194	3.327	46.748	0.000
CEO	0.007	0.003	0.000	1.000	0.035	2.916	18.676	0.000
NED	0.753	0.130	0.500	1.000	0.228	3.130	3.737	0.154
Bsize	7.667	1.686	7.000	15.000	0.221	2.886	29.854	0.000
ACI	0.628	0.148	0.000	1.000	0.407	3.004	15.521	0.000
Size	6.365	0.997	4.662	8.630	0.325	3.074	3.162	0.206
Growth	0.151	0.609	(0.999)	3.923	0.299	2.996	18.424	0.000

Source: Author's Stata version 15 Computation.

4.2. Pearson Correlation Analysis

Table 2 shows the Pearson correlation analysis between the variables used in this study. The Pearson correlation analysis was used to determine whether there was a significant relationship between a dependent variable and the independent variables. Again, it is used to identify the existence of a strong relationship among the independent variables for removal from the model. Table 2 shows the Pearson correlation analysis between variables used in this study. It is also used preliminary test for multicollinearity and linearity assumptions among variables before the regression analysis.

Table 2 indicates the correlation between CEO, ACI, Bsize, NED, Bsize, Size, Growth, and NIM were O.603, 0.573, 0.497, 0.624, 0.523, and 0.446, respectively. It shows that there were significant and positive correlations between the independent variables and the dependent variable. According to Pfeifer & Carraway (2000), the correlation between the variables is considered very low when the correlation coefficient is below 0.20, the correlation between the variables is considered low when the correlation coefficient is between 0.21 and 0.40, the correlation between the variables is considered moderate when the correlation coefficient is between 0.41 and 0.70, and a high correlation when the value or the degree of the association is from 0.71 to 0.91. Table 2, revealed that there is significant relationship between CEO-non-duality (CEO) and bank's performance ($r = 0.603$, $p < 0.01$), audit committee independence (ACI) and bank's performance ($r = 0.573$, $p < 0.01$), board size (Bsize) and bank's performance ($r = 0.497$, $p < 0.01$) and non-executive director (NED) and bank's performance ($r = 0.624$, $p < 0.01$). However, a correlation among the independent variables was not high enough to violate the multicollinearity assumption. According to Darmadi and Gunawan (2013), a strong correlation among the independent variables signals the presence of multicollinearity challenges between variables in the model. A correlation coefficient index greater than 0.90 indicates the presence of multicollinearity challenges (Asterious & Hall, 2007). It is worth noting that the correlation among the independent was lower than 0.500 to avoid multicollinearity

challenges for the modal. To further confirm the absence of multicollinearity in the model, the study employed Vector Inflation Factor (VIF) was used to ensure the multicollinearity assumption is not violated. When a tolerance value is lower than 0.20 and a VIF value is greater than 10 suggests a multicollinearity problem (Menard, 1995; Myers, 1990). The tolerance value is the inverse of the Variance Inflation Factor (1/VIF).

Table 3 indicates that the VIF values for the variables are less than 10 and shows a clear indication that the variables are not suffering from multicollinearity problems. The highest VIF among the variable is Growth which is 3.401 with a tolerance value above 0.294. There, none of the variables would be removed from the model because none of them violated the multicollinearity assumption

Table 2. Pearson correlation analysis.

Variables		NIM	CEO	ACI	Bsize	NED	Size	Growth
Pearson Corr.	NIM	1						
Sig. (2-tailed)		…						
Pearson Corr.	CEO	0.603	1					
Sig. (2-tailed)		0.000	…					
Pearson Corr.	ACI	0.573	−0.179	1				
Sig. (2-tailed)		0.001	0.000	…				
Pearson Corr.	Bsize	0.497	−0.459	0.446	1			
Sig. (2-tailed)		0.000	0.001	0.006	…			
Pearson Corr.	NED	0.624	−0.662	0.094	0.147	1		
Sig. (2-tailed)		0.009	0.001	0.003	0.000	…		
Pearson Corr.	Size	0.523	0.099	−0.043	0.086	−0.153	1	
Sig. (2-tailed)		0.004	0.002	0.001	0.000	0.003	0.007	
Pearson Corr.	Growth	0.446	0.007	−0.047	−0.048	0	0.054	1
Sig. (2-tailed)		0.000	0.000	0.003	0.001	0.000	0.001	…

Source: Author's Stata version 15 Computation.

Table 3. Variance Inflation Factor (VIF) and Tolerance Value.

Variables	VIF level	Tolerance (i.e., 1/VIF)
CEO	2.370	0.422
ACI	2.680	0.373
Bsize	3.270	0.306
NED	2.910	0.344
Size	3.050	0.328
Growth	3.401	0.294
Mean VIF	2.947	

Source: Author's Stata version 15 Computation.

for this study. The existence of multicollinearity would not affect how the regression is performed but rather affect the interpretation of the result (Anderson, Sweeney, & Williams, 2009). Therefore, since there is no independent variable that is strongly correlated, the study proceeds to run the regression model without the need to eliminate any variable from the model for fear of multicollinearity challenge.

4.3. Multiple Regression Results

This sub-section aims to assess the effect of the audit committee mechanism on the bank's performance. The panel regression analysis was carried out in three stages: 1) to specify the most suitable estimator between the fixed effect model and random effect model for this analysis, 2) to conduct the panel regression analysis and 3) to test the regression assumption underlying the regression model. The regression analysis is inferential statistics used to determine whether the relationship observed in the sample is similar to that of the larger population, therefore, it is important to ensure that the model is goodness of fit to predict the relationship among the variables.

4.3.1. Econometric Techniques for Efficient Estimation

This study employed the Hausman test as the econometrics tool to choose between the fixed effect model and the random effect model for this analysis. The null hypothesis for the Hausman test assumes the specified random effect estimator while the alternate hypothesis assumes the fixed effects estimator (Green, 2003). The rule of thumb is to reject the null hypothesis and select the Fixed effects estimator as the most suitable estimator for the analysis when the *p*-value is less than or equal to 5% and else, the study is compelled to select the Random effects estimator as the most suitable estimator this analysis when the *p*-value is greater than and statistically significant (i.e., when the *p*-value > 0.05).

The result from the Hausman test presented in **Table 4** indicates that the (Chi-square = 1.63, *p*-value = 0.6484). This means that the *p*-value is greater than 5%. Since the *p*-value is greater than 5% (*p*-value < 0.05), the study failed to reject the null hypothesis and conclude that the preferred estimator model for the assessment is a random effect estimator (Green, 2003). Therefore, the suitable model to estimate the between the audit committee mechanism and the bank's performance is the random effect model.

4.3.2. Relationship between Corporate Governance, Audit Committee Independence, and Bank's Performance

The result from the random effect estimator is presented in **Table 5** and shows the relationship between the dependent variable (i.e., NIM) and independent variables (i.e., CEO, ACI, Bsize, and NED). The R^2 of the model summary explains the fraction of the variation in the dependent variable that is explained or accounted for by the independent variables. The R^2 indicates statistically the percentage of the variance in the dependent variable that the independent variables

Table 4. Test results from hausman test.

	Coefficients			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
Variable	Fe	Re	Difference	S.E.
CEO	0.255	0.257	(0.002)	0.011
ACI	0.345	0.346	(0.001)	0.004
Bsize	0.148	0.151	(0.003)	0.006
NED	0.237	0.239	(0.002)	0.003
Size	0.159	0.161	(0.002)	0.006
Growth	0.144	0.144	(0.000)	0.002

Source: Researcher's Stata version 15 Computation.
b = consistent under Ho and Ha; obtained from xtreg.
B = inconsistent under Ha, efficient under Ho; obtained from xtreg.
Test: Ho: difference in coefficients not systematic.
$chi^2(5) = (b\text{-}B)'[(V\_b\text{-}V\_B)^{(-1)}](b\text{-}B) = 1.63$.
Prob > $chi^2 = 0.6484$.
(V_b-V_B is not positive definite).

Table 5. Regression result for Step 1 (CEO, ACI, Bsize, and NED →NIM).

Model summary: (R^2)						
Within: 0.7783					Number of obs.: 200	
Between: 0.7520					Number of groups: 20	
Overall: 0.7783					Average: 10	
p-value: 0.000					Wald $chi^2(6) = 591.27$	
Corr (εit, X) = 0.00						
NIM	**Coefficients**	**Std. Err.**	**Z**-statistics	***P*> |z|**	95% Conf. Interval	
CEO	0.257	0.080	3.218	0.003	0.229	0.285
ACI	0.346	0.099	3.490	0.000	0.314	0.378
Bsize	0.151	0.035	4.283	0.197	0.073	0.229
NED	0.239	0.076	3.126	0.003	0.189	0.289
Size	0.161	0.053	3.016	0.000	0.147	0.175
Growth	0.144	0.027	5.274	0.000	0.130	0.158
Constant	0.136	0.024	5.666	0.112	0.002	0.270
sigma_u			0.024			
sigma_e			0.029			
rho	0.416 (fraction of variance due to u_i)					

Source: Author's Stata version 15 Computation.

explain collectively. It is the fraction of the dependent variable that can be explained or accounted for by the independent variables. Therefore, the R^2 of

0.7783 or 77.83%, implies that the dependent variable (NIM) is jointly explained by the independent variables (CEO, ACI, Bsize, and NED). It implies that the model can predict or explain the changes in the bank's performance. When the R^2 is higher and closer to 100% or 1.0, the model is better predictive power for the analysis. It implies that the model is a strong determinant of the relationship between sustainability reporting, corporate governance practice, and value. Thus, only 22.17% of the regression model is unexplained by the independent variables. The "rho" gives the proportion of the variation in the dependent variable that can be explained by the εit (Caruso & Cliff, 1997). Again, Wald $chi^2(6)$ value of 591.27 with an associated Prob > chi^2 = 0.0000 implies the model is fit to explain the relationship between audit committee characteristics and the bank's performance and therefore, suggests further that the independent variables were properly selected and jointly used to predict the relationship in the model. The error εit is not correlated with the regressors variables and it assumes that Random Effects Estimator (corr (εit, Xi) = 0.00).

Table 5 shows the regression coefficients (β), and their corresponding standard error, t-statistics, and the significance of all coefficients for the model used to assess the null hypotheses of this study. The estimated coefficient (β) indicates the magnitude and direction of each of the variables to predict the effect of the independent variable on the dependent variable. The study observed that there were positive and significant relationships between CEO, ACI, Bsize, NED, and NIM. Table 5 shows that the coefficient (β), t-statistic value, and *p*-value between CEO non-duality (CEO) and the bank's performance were (β = 0.257, t = 3.218, and $p < 0.05$). This implies that CEO non-duality affects the bank's performance positively and significantly since the *p*-value is less than a 5% level of significance. The CEO-non-duality allows the board to depend on better accountability from the CEO and the management team as a whole. This outcome is consistent with the previous studies and agency theory which requires that the CEO position and the board Chairman Position should not be handled by one person as described in corporate governance guidelines. Therefore, based on the result in Table 5 and the explanations thereof, the study failed to reject the null hypothesis (H01) and concludes that CEO non-duality affects the bank's performance significantly. Therefore, all things being equal, a 1% increase in audit committee independence leads to an increase of 25.7% in the bank's performance.

Additionally, Table 5 shows that the coefficient (β), t-statistic value, and *p*-value between audit committee independence (ACI) and the bank's performance were (β = 0.346, t = 3.490, and $p < 0.05$). This implies that audit committee independence affects the bank's performance positively and significantly since the *p*-value is less than a 5% level of significance. This outcome is consistent with previous studies (Ahulu & MacCarthy, 2019; Kakar et al., 2021; Monks & Minow, 2004) and agency theory. Agency theory asserts that audit committee independence provides means to check on the opportunistic behaviors of man-

agement that conflict with the objectives of the firm and the owners. Therefore, the study rejects the null hypothesis (H02) and concludes that audit committee independence affects the bank's performance. Therefore, all things being equal, a 1% increase in audit committee independence leads to an increase of 34.6% in the bank's performance.

Again, **Table 5** shows the coefficient (β), t-statistic value, and the *p*-value between board size (Bsize) and the bank's performance (β = 0.151, t = 4.283, and $p < 0.10$). This implies that board size affects the bank's performance positively but insignificantly since the *p*-value was marginally significant at 10%. This outcome of no significant relationship between board size and a firm's performance is consistent with some previous studies such as (Adams & Mehran, 2003; Belkhir, 2009; Busta, 2007; Hadi Zulkafli & Abdul Samad, 2007) who opined that board size no significant relationship with firm's performance. However, it is consistent with previous studies that opined a positive association between board size and firm performance (Dwivedi & Jain, 2015; Abor & Biekpe, 2007; Kiel & Nicholson, 2003). Therefore, the study failed to reject the null hypothesis (H03) and concludes that board size is insignificantly related to a bank's performance.

Finally, **Table 5** shows the coefficient (β), t-statistic value, and *p*-value between non-executive directors (NED) and the bank's performance (β = 0.239, t = 3.126, and $p < 0.05$). This implies that non-executive director affects the bank's performance positively and significantly since the *p*-value is less than a 5% level of significance. This implies that a high number of non-executive director improve the bank's performance. This outcome is consistent with agency theory and previous studies (Chabachib et al., 2020; Chen et al., 2017; Jiang et al., 2020; Naciti, 2019; Nyamongo & Temesgen, 2013) that opined that non-executive directors affect a firm's performance positively. Again, Chabachib et al. (2020) conducted a study and concluded that the high presence of non-executive directors on the board enhances the board's independence to monitor management performance. Therefore, the study rejects the null hypothesis (H04) and concludes that audit committee independence affects the bank's performance. Therefore, all things being equal, a 1% increase in audit committee independence leads to an increase of 23.9% in the bank's performance.

4.3.3. Diagnostic Checks and Robustness Test

To ensure is well-specified to estimate the relationship between corporate governance, audit committee independence, and bank performance, the study proceeds to test the following underlying regression assumptions: normality, autocorrelation, endogeneity, and heteroskedasticity tests to provide that the model is suitable to examine the relationship among and also inference can be made from the outcome.

The diagnostic tests for normality, autocorrelation, and heteroscedasticity presented in **Table 6** show that the model passes all the diagnostic tests. Therefore, the model has violated any underlying regression assumptions; it is stable

Table 6. Model diagnostic checks and stability test.

Tests	Tests Statistics and Hypotheses	Null
1	Test for Normality: Econometrics tool: Kolmogorov-Smirnov[a]/Shapiro-Wilk test Result: $Chi^2(6) = 4.21$, and p-value = 0.191 Null hypothesis: Data is normally distributed Decision: Assumption not violated and model fit for regression	Accepted
2.	Test for autocorrelation: Econometrics tool: Breusch-Godfrey Test Result: $Chi^2(6) = 2.13$, and p-value = 0.324 Null hypothesis: Data is autocorrelated Decision: Assumption not violated and model fit for regression	Rejected
3.	Test for Endogeneity: Test for unobserved individual heterogeneity: Econometrics tool: Hausman test Result: $Chi^2(6) = 4.60$, p-value = 0.4664 Null hypothesis: random Effect estimator Decision: The most suitable model for regression is the random effect estimator	Accepted
4.	Test for heteroskedasticity: Econometrics tool: Breusch-Pagan/Cook-Weisberg test Result: BP = 3.34, and p-value = 0.274 The null is that it is homoscedastic Decision: Confirmation of Random effect estimator as the most suitable model for regression	Accepted

Source: Compiled by the author (2023).

and rightly specified as the goodness of fit for the analysis. Again, a test for the model robustness was performed using two different regression methods as recommended by Boozer (1997) and MacCarthy (2021) to enhance the efficacy of the statistical analysis and also allow for the identification of complex behavioral patterns. As observed by Hermalin and Weisbach (2003) most of the challenges in corporate governance analysis are the issues of endogeneity and omitted variables. Whenever these problems occur in regression analysis the outcome is biased and the result becomes inconsistent. To overcome these challenges the study carried second regression and analysis using Generalised Method of Moments (GMM) as second regression analysis. The result of the GMM shows that CEO-non-duality, audit committee independence, board size and non-executive directors are positively related to bank's performance. This implies that endogeneity assumption is not violated as confirmed in **Table 6**. Again, to check on the robustness of the result, the study replaced the NIM with PAT. The result obtained using PAT as the dependent variable was similar to NIM. This implies that the output from the random effect estimator is stable and it is devoid of heteroscedasticity and omitted variables challenges in this analysis. Therefore, the

study proceeded to estimate the parameters that predict the relationship among the variables based on the result obtained from the random effect estimator in Table 4 and expressed as multiple regressions in Equation (3):

$$\begin{aligned} \text{Nim}_{it} &= 0.136 + 0.257\text{CEO}_{it} + 0.346\text{ACI}_{it} + 0.151\text{Bsize}_{it} \\ &+ 0.239\text{NED}_{it} + 0.161\text{Size}_{it} + 0.161\text{Growth}_{it} \end{aligned} \quad (3)$$

5. Conclusion and Recommendations

This study was undertaken purposely to assess the effect of corporate governance and audit committee independence on the bank's performance. The regression assumption tested revealed that none of the underlying assumptions was violated: Normality, autocorrelation, endogeneity, and heterogeneity, and therefore the model exhibits goodness-of-fit to produce unbiased outcomes for this analysis. The study revealed a positive and significant relationship between CEO-non-duality, audit committee independence, non-executive director, and bank performance. These findings are well-aligned with agency theorists' perspective that advocates for strengthening corporate governance mechanisms and audit committee independence to minimize agency conflicts arising out of the principal-agent relationship. The findings give support to CEO-non-duality. Agency theorists believed having one person to person to occupy the position of both CEO and the Chairman of a board may affect the bank's performance negatively. However, the study failed to obtain a statistically significant relationship between board size and the bank's performance. Therefore, the board size does not contribute significantly to the corporate governance mechanism of banks in Ghana. Since the board does not matter but the presence of non-executive directors on the board affects the bank's performance, it implies that the composition of the board is what matters because it affects the independence of the board. The reason behind this inconsistency is that most of the board sizes are neither extremely large nor extremely low, making it difficult to make a significant effect on the bank's performance. Overall, this study's findings are consistent with agency theory that opined that corporate governance, as well as audit committee independence, are essential monitoring and control device that can mitigate information asymmetry, adverse selection, and moral hazard associated with management (i.e., agents) at the expense of owners (principal). The makes significant recommendations to the regulator and the entities (i.e., the banks) based on the findings from this study that would improve corporate governance and the bank's performance nexus. Firstly, the regulator must ensure that more independent directors are appointed to audit committees and those appointed should have a background in accounting and finance to improve upon the audit committee function. Secondly, the regulator should legislate that all board chairmen should be independent directors and those who violate this provision should be heavily penalized in monetary to serve as a deterrent. Lastly, the banks should ensure that only independent directors chair the audit com-

mittee to enhance the independence of the audit committees of banks. There are two main limitations to this study. The first limitation of this study is that the study is a quantitative analysis between board sizes and bank performance. A future study involving mixed methodology could unravel the insignificant relationship between the board sizes and the bank's performance. To serve as a guide to board composition in Ghana, until then it remains theoretical significance without empirical support in Ghana. The second limitation is that the study assesses only the direct relationship between corporate governance, the audit committee, and the bank's performance but failed to assess the indirect relationship of audit committee independence through moderating and mediating analysis of the bank's performance. Therefore, future research should include both moderating and mediating the role of audit committee independence between corporate governance mechanisms and the bank's performance.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Abbasi, A., & Malik, Q. A. (2015). Firms' Size Moderating Financial Performance in Growing Firms: An Empirical Evidence from Pakistan. *International Journal of Economics and Financial Issues, 5,* 334-339.

Abor, J., & Biekpe, N. (2007). Corporate Governance, Ownership Structure and Performance of SMEs in Ghana: Implications for Financing Opportunities. *Corporate Governance, 7,* 288-300. https://doi.org/10.1108/14720700710756562

Adams, R., & Mehran, H. (2003). *Is Corporate Governance Different for Bank Holding Companies* (pp. 123-142). Federal Reserve Bank of New York. https://doi.org/10.2139/ssrn.387561

Agrawal, A., & Knoeber, C. R. (1996). Firm Performance and Mechanisms to Control Agency Problems between Managers and Shareholders. *Journal of Financial and Quantitative Analysis, 31*, 377-397. https://doi.org/10.2307/2331397

Aguilera, R. V., Filatotchev, I., Gospel, H., & Jackson, G. (2008). An Organizational Approach to Comparative Corporate Governance: Costs, Contingencies, and Complementarities. *Organization Science, 19,* 475-492. https://doi.org/10.1287/orsc.1070.0322

Ahulu, H., & MacCarthy, J. (2019). Does Corporate Governance Structures Predict Firm's Market Value? Empirical Evidence from Ghana. *International Journal of Economics and Financial Issues, 10,* 52-58. https://doi.org/10.32479/ijefi.8874

Aldamen, H., Duncan, K., Kelly, S., Mcnamara, R., & Nagel, S. (2012). Audit Committee Characteristics and Firm Performance during the Global Financial Crisis. *Accounting and Finance, 52,* 971-1000. https://doi.org/10.1111/j.1467-629X.2011.00447.x

Al-Jalahma, A. (2022). Impact of Audit Committee Characteristics on Firm Performance: Evidence from Bahrain. *Problems and Perspectives in Management, 20,* 247-261. https://doi.org/10.21511/ppm.20(1).2022.21

Allegrini, M., & Greco, G. (2013). Corporate Boards, Audit Committees and Voluntary Disclosure: Evidence from Italian Listed Companies. *Journal of Management & Go-*

vernance, 17, 187-216. https://doi.org/10.1007/s10997-011-9168-3

Amahalu, N. N., & Ezechukwu, B. O. (2017). Determinants of Audit Quality: Evidence from Deposit Money Banks Listed on Nigeria Stock Exchange. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 7,* 117-130. https://doi.org/10.6007/IJARAFMS/v7-i2/2877

Anderson, D. R., Sweeney, D. T., & Williams, T. A. (2009). *Statistics for Business and Economics.* West Publishing Company.

Appiah, K. O. (2013). *Corporate Governance and Corporate Failure: Evidence from Listed UK Firms.* Ph.D. Thesis, Loughborough University.

Asterious, D., & Hall, S. (2007). *Applied Econometrics: A Modern Approach.* Palgrave Macmillan.

Bank of Ghana [BoG] (2018). *Banking Sector Report.* https://www.bog.gov.gh/wp-content/uploads/2019/08/Banking-Sector-Report-July-2018-1.pdf

Barton, D., Coombes, P., & Wong, S. Y. (2004). Asia's Governance Challenges. *The McKinsey Quarterly, 2,* 54-61.

Belkhir, M. (2009). Board of Directors' Size and Performance in the Banking Industry. *International Journal of Managerial Finance, 5,* 201-221. https://doi.org/10.1108/17439130910947903

Berthelot, S., Morris, T., & Morrill, C. (2010). Corporate Governance Rating and Financial Performance: A Canadian Study. *Corporate Governance, 10,* 635-646. https://doi.org/10.1108/14720701011085599

Boone, A. L., Field, L. C., Karpoff, J. M., & Raheja, C. G. (2007). The Determinants of Corporate Board Size and Composition: An Empirical Analysis. *Journal of Financial Economics, 85,* 66-101. https://doi.org/10.1016/j.jfineco.2006.05.004

Boozer, M. A. (1997). Econometric Analysis of Panel Data Badi H. Baltagi Wiley, 1995. *Econometric Theory, 13,* 747-754. http://doi.org/10.1017/S0266466600006150

Brown, L. D., & Caylor, M. L. (2006). Corporate Governance and Firm Valuation. *Journal of Accounting and Public Policy, 25,* 409-434. https://doi.org/10.1016/j.jaccpubpol.2006.05.005

Busta, I. (2007). Board Effectiveness and the Impact of the Legal Family in the European Banking Industry. In *FMA European Conference*. FMA European Conference.

Byrne, B. M. (2010). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming.* Routledge.

Caruso, J. C., & Cliff, N. (1997). Empirical Size, Coverage, and Power of Confidence Intervals for Spearman's Rho. *Educational and Psychological Measurement, 57,* 637-654. https://doi.org/10.1177/0013164497057004009

Chabachib, M., Hersugondo, H., Ardiana, E., & Pamungkas, I. D. (2020). Analysis of Company Characteristics of Firm Values: Profitability as Intervening Variables. *International Journal of Financial Research, 11,* 60-70. https://doi.org/10.5430/ijfr.v11n1p60

Chen, H., Dong, W., Han, H., & Zhou, N. (2017). A Comprehensive and Quantitative Internal Control Index: Construction, Validation, and Impact. *Review of Quantitative Finance and Accounting, 49,* 337-377. https://doi.org/10.1007/s11156-016-0593-x

Claessens, S., & Yurtoglu, B. B. (2013). Corporate Governance in Emerging Markets: A Survey. *Emerging Markets Review, 15,* 1-33. https://doi.org/10.1016/j.ememar.2012.03.002

Cohen, J. R., Krishnamoorthy, G., & Wright, A. M. (2008). Form versus Substance: The

Implications for Auditing Practice and Research of Alternative Perspectives on Corporate Governance. *Auditing: A Journal of Practice & Theory, 27,* 181-198. https://doi.org/10.2308/aud.2008.27.2.181

Daily, C. M., Dalton, D. R., & Cannella, A. C. (2003). Corporate Governance: Decades of Dialogue and Data. *Academy of Management Review, 28,* 371-382. https://doi.org/10.5465/amr.2003.10196703

Darmadi, S., & Gunawan, R. (2013). Underpricing, Board Structure, and Ownership: An Empirical Examination of Indonesian IPO Firms. *Managerial Finance, 39,* 181-200. https://doi.org/10.1108/03074351311294016

Davidson, R., Goodwin-Stewart, J., & Kent, P. (2015). Internal Governance Structures and Earnings Management. *Accounting and Finance, 45,* 241-268. https://doi.org/10.1111/j.1467-629x.2004.00132.x

Detthamrong, U., Chancharat, N., & Vithessonthi, C. (2017). Corporate Governance, Capital Structure and Firm Performance: Evidence from Thailand. *Research in International Business and Finance, 42,* 689-709. https://doi.org/10.1016/j.ribaf.2017.07.011

DeZoort, F. T., Hermanson, D. R. Archambeault, D. S., & Reed, S. A. (2002). Audit Committee Effectiveness: A Synthesis of the Empirical Audit Committee Literature. *Journal of Accounting Literature, 21,* 38-75.

Drobetz, W., Schillhofer, A., & Zimmermann, H. (2004). Corporate Governance and Expected Stock Returns: Evidence from Germany. *European Financial Management, 10,* 267-293. https://doi.org/10.1111/j.1354-7798.2004.00250.x

Dwamena, K. O., & Yusoff, M. E. (2022). Banking Crisis in Ghana: Major Causes. *International Journal of Academic Research in Accounting Finance and Management Sciences, 12,* 406-418. https://doi.org/10.6007/IJARAFMS/v12-i3/14833

Dwamena, R. O. (2021). Examining the Relationship between Audit Committee and Corporate Governance of MMDAs in Western Region. *Finance and Management Engineering Journal of Africa, 3,* 17-34.

Dwivedi, N., & Jain, A. K. (2005). Corporate Governance and Performance of Indian Firms: The Effect of Board Size and Ownership. *Employee Responsibilities and Rights Journal, 17,* 161-172. https://doi.org/10.1007/s10672-005-6939-5

Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger Board Size and Decreasing Firm Value in Small Firms. *Journal of Financial Economics, 48,* 35-54. https://doi.org/10.1016/S0304-405X(98)00003-8

Elsayed, K. (2011). Board Size and Corporate Performance: The Missing Role of Board Leadership Structure. *Journal of Management & Governance, 15,* 415-446. https://doi.org/10.1007/s10997-009-9110-0

George, D., & Mallery, P. (2010). *SPSS for Windows Step by Step. A Simple Study Guide and Reference* (10th ed., pp. 152-165). Pearson Education, Inc.

Goodstein, J., Gautam, K., & Boeker, W. (1994). The Effects of Board Size and Diversity on Strategic Change. *Strategic Management Journal, 15,* 241-250. https://doi.org/10.1002/smj.4250150305

Green, W. H. (2003). *Econometric Analysis* (5th ed.). Prentice Hall.

Gruszczynski, M. (2006). Corporate Governance and Financial Performance of Companies in Poland. *International Advances in Economic Research, 12,* 251-259. https://doi.org/10.1007/s11294-006-9007-5

Hadi Zulkafli, A., & Abdul Samad, F. (2007). Corporate Governance and Performance of Banking Firms: Evidence from Asian Emerging Markets. In M. Hirschey, K. John, & A.

K. Makhija (Eds.), *Issues in Corporate Governance and Finance* (pp. 49-74). Emerald Group Publishing Limited. https://doi.org/10.1016/S1569-3732(07)12003-X

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis* (6th ed.). Pearson Prentice Hall.

Harford, J., Mansi, S. A., & Maxwell, W. F. (2008). Corporate Governance and Firm Cash Holdings in the US. *Journal of Financial Economics, 87,* 535-555. https://doi.org/10.1016/j.jfineco.2007.04.002

Hermalin, B., & Weisbach, M. S. (2003). Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature. *FRBNY Economic Policy Review, 4,* 7-26.

Huang, L. (2007). Does Corporate Governance and Ownership Structure Influence Performance? Evidence from Taiwan Region Life Insurance Companies. *Journal of Insurance Issues, 30,* 123-151.

Javeed, A., & Azeem, M. (2014). Interrelationship among Capital Structure, Corporate Governance Measures and Firm Value: Panel Study from Pakistan. *Pakistan Journal of Commerce and Social Sciences (PJCSS), 8,* 572-589.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics, 3,* 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Jiang, X., Coffee, M., Bari, A., Wang, J., Jiang, X., Huang, J. et al. (2020). Towards an Artificial Intelligence Framework for Data-Driven Prediction of Coronavirus Clinical Severity. *Computers, Materials & Continua, 63,* 537-551. https://doi.org/10.32604/cmc.2020.010691

Kakar, S., Ali, J., Bilal, M., Tahira, Y., Tahir, M., Bahadar, N., Bukhari, H., Ullah, S., & Aziz, T. (2021). Corporate Governance, Risk Management, and Bank Performance: Does Type of Ownership Matter? *Journal of Financial Risk Management, 10,* 342-366. https://doi.org/10.4236/jfrm.2021.103020

Kiel, G. C., & Nicholson, G. J. (2003). Board Composition and Corporate Performance: How the Australian Experience Informs Contrasting Theories of Corporate Governance. *Corporate Governance: An International Review, 11,* 189-205. https://doi.org/10.1111/1467-8683.00318

Klein, A. (2002). Audit Committee, Board of Director Characteristics, and Earnings Management. *Journal of Accounting and Economics, 33,* 375-400. https://doi.org/10.1016/S0165-4101(02)00059-9

Kline, R. B. (2011). Convergence of Structural Equation Modeling and Multilevel Modeling. In M. Williams, & W. Paul Vogt (Ed.), *The SAGE Handbook of Innovation in Social Research Methods* (pp. 562-589). SAGE Publications Ltd.

Lehmann, E., & Weigand, J. B. (2000). Does the Governed Corporation Perform Better? Governance Structures and Corporate Performance in Germany. *European Finance Review, 4,* 157-195. https://doi.org/10.1023/A:1009896709767

Lin, J. W., Li, J. F., & Yang, J. S. (2006). The Effect of Audit Committee Performance on Earnings Quality. *Managerial Auditing Journal, 21,* 921-933. https://doi.org/10.1108/02686900610705019

Love, I. (2011). Corporate Governance and Performance around the World: What We Know and What We Don't. *The World Bank Research Observer, 26,* 42-70. https://doi.org/10.1093/wbro/lkp030

Lu, Z., & Zhu, J. (2020). Tracing Back to the Source: Understanding the Corporate Governance of Boards of Directors in Chinese SOEs. *China Journal of Accounting Re-*

search, 13, 129-145. https://doi.org/10.1016/j.cjar.2020.04.001

MacCarthy, J. (2021). Effect of Earnings Management and Deferred Tax on Tax Avoidance: Evidence Using Modified Jones Model Algorithm. *Corporate Ownership & Control, 19,* 272-287. https://doi.org/10.22495/cocv19i1siart5

Mak, Y. T., & Kusnadi, Y. (2005). Size Really Matters: Further Evidence on the Negative Relationship between Board Size and Firm Value. *Pacific-Basin Finance Journal, 13,* 301-318. https://doi.org/10.1016/j.pacfin.2004.09.002

Mangena, M., & Pike, R. (2015). The Effect of Audit Committee Shareholding, Financial Expertise and Size on Interim Financial Disclosures. *Accounting & Business Research, 35,* 327-349. https://doi.org/10.1080/00014788.2005.9729998

Mansi, S. A., & Reeb, D. M. (2002). Corporate Diversification: What Gets Discounted? *The Journal of Finance, 57,* 2167-2183. https://doi.org/10.1111/0022-1082.00492

Menard, S. (1995). A Developmental Test of Mertonian Anomie Theory. *Journal of Research in Crime and Delinquency, 32,* 136-174. https://doi.org/10.1177/0022427895032002002

Mohiuddin, M., & Karbhari, Y. (2010). Audit Committee Effectiveness: A Critical Literature Review. *Journal of Business and Economics, 9,* 97-125.

Monks, R. A. G., & Minnow, N. (2004). *Corporate Governance.* Blackwell

Myers, R. (1990). *Classical and Modern Regression with Applications.* Duxbury Press.

Naciti, V. (2019). Corporate Governance and Board of Directors: The Effect of a Board Composition on Firm Sustainability Performance. *Journal of Cleaner Production, 237,* Article ID: 117727. https://doi.org/10.1016/j.jclepro.2019.117727

Nyamongo, E. M., & Temesgen, K. (2013). The Effect of Governance on Performance of Commercial Banks in Kenya: A Panel Study. *Corporate Governance, 13,* 236-248. https://doi.org/10.1108/CG-12-2010-0107

Osevwe-Okoroyibo, E. E., & Emeka-Nwokeji, N. A. (2021). Examining Effect of Audit Committee Attributes on Firm Performance: Evidence from Listed Food and Beverages Firms in Nigeria. *European Journal of Accounting, Auditing and Finance Research, 9,* 26-43.

Padilla, A. (2002). Can Agency Theory Justify the Regulation of Insider Trading? *The Quarterly Journal of Austrian Economics, 5,* 3-38. https://doi.org/10.1007/s12113-002-1015-6

Pandey, D. N. (2007). Multifunctional Agroforestry Systems in India. *Current Science, 92,* 455-463.

Park, K., & Jang, S. (2014). Hospitality and Managerial Accounting Research. Suggesting and Interdisciplinary Research Agenda. *International Journal of Contemporary Hospitality Management, 26,* 751-777. https://doi.org/10.1108/IJCHM-12-2013-0554

Patro, S., Lehn, K., & Zhao, M. (2004). *Determinants of the Size and Structure of Corporate Boards: 1935-2000.* Working Paper, University of Pittsburgh. https://doi.org/10.2139/ssrn.470675

Pfeifer, P. E., & Carraway, R. L. (2000). Modeling Customer Relationships as Markov Chains. *Journal of Interactive Marketing, 14,* 43-55. https://doi.org/10.1002/(SICI)1520-6653(200021)14:2<43::AID-DIR4>3.0.CO;2-H

Putrajaya Governance Committee (PGC) (2006). *Transformation Programme Manual.* Putrajaya Governance Committee.

Qeshta, M. H., Alsoud, G. F. A., Hezabr, A. A., Ali, B. J., & Oudat, M. S. (2021). Audit Committee Characteristics and Firm Performance: Evidence from the Insurance Sector

in Bahrain. *Revista Gestão Inovação e Tecnologias, 11,* 1666-1680.

Rajagopalan, N., & Zhang, Y. (2008). Corporate Governance Reforms in China and India: Challenges and Opportunities. *Business Horizons, 51,* 55-64. https://doi.org/10.1016/j.bushor.2007.09.005

Sanda, A. U., Mikailu, A. S., & Garba, T. (2010). Corporate Governance Mechanisms and Firms' Financial Performance in Nigeria. *Afro-Asian Journal of Finance and Accounting, 2,* 22-39. https://doi.org/10.1504/AAJFA.2010.035193

Saravanan, P. (2012). *Corporate Governance and Company Performance: A Study with Reference to Manufacturing Firms in India.* SSRN. https://doi.org/10.2139/ssrn.2063677

Sheikh, N. A., Wang, Z., & Khan, S. (2013). The Impact of Internal Attributes of Corporate Governance on Firm Performance: Evidence from Pakistan. *International Journal of Commerce and Management, 23,* 38-55. https://doi.org/10.1108/10569211311301420

Varshney, P., Kaul, V. K., & Vasal, V. K. (2012). *Corporate Governance Index and Firm Performance: Empirical Evidence from India.* SSRN. http://ssrn.com/abstract2103462 https://doi.org/10.2139/ssrn.2103462

Vo, D. H., & Nguyen, T. M. (2014). The Impact of Corporate Governance on Firm Performance: Empirical Study in Vietnam. *International Journal of Economics and Finance, 6,* 1-13. https://doi.org/10.5539/ijef.v6n6p1

Xie, B., Davidson III, W. N., & DaDalt, P. J. (2013). Earnings Management and Corporate Governance: The Role of the Board and the Audit Committee. *Journal of Corporate Finance, 9,* 295-317. https://doi.org/10.1016/S0929-1199(02)00006-8

Xu, X., & Wang, Y. (1997). *Ownership Structure, Corporate Governance, and Corporate Performance: The Case of Chinese Stock Companies.* Policy Research Working Paper 1794, The World Bank.

Yang, J., & Krishnan, J. (2005). Audit Committees and Quarterly Earnings Management. *International Journal of Auditing, 9,* 201-219. https://doi.org/10.1111/j.1099-1123.2005.00278.x

Yermack, D. (1996). Higher Market Valuation of Companies with a Small Board of Directors. *Journal of Financial Economics, 40,* 185-211. https://doi.org/10.1016/0304-405X(95)00844-5

Yesser (2011). *Yesser Annual Report.* Government of Saudi Arabia.