

# Examining the Mediating Influence of Risk Management in the Relation Between Board Size, Independence and Financial Performance of Banks in Ghana.

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## Abstract

*The survival and growth of banks are critical for the sound provision of financial support to the economic players. The current study sought to examine the relationship between corporate governance practices and financial performance of banks in Ghana, examine the mediating roles of credit risk management between corporate governance practices and financial performance of banks in Ghana and examine the challenges facing banks in the implementation of corporate governance by banks in Ghana. The research approach for the study is quantitative. The application of this method provided a numerical assessment of the study. The study used both primary and secondary data collected using Likert scale questionnaires. The data were statistically analysed with the SPSS. The results show that there is a significant mediation role played by credit risk management in the relationship between corporate governance practices and the financial performance of banks. The study pointed out that corporate governance practices and credit risk management have impacts on the financial performance of banks. Analyzing the individual indicators under corporate governance practices and credit risk management it was found that all the identified corporate governance practices and credit risk management indicators are significant in managing financial performance banks. The study recommended that additional studies must be conducted to assess the effects of corporate governance on other aspects of performance including marketing performance, operational performance, and administrative performance among banks in Ghana. Banks are economic instruments used to boost productivity, economic growth and poverty alleviation. The efficient running of financial sectors is a prerequisite for economic transformation, growth and development.*

*Keywords: Mediating Influence of Risk, Board Independence, Ghanaian Banks Performance, Financial Performance, Economic Instruments, Economic Growth and Poverty Alleviation*

## 1.0 INTRODUCTION

One of the credences given to curtailing or reducing the banking risk is to adopt and implement a good corporate governance system (Ogbechie, 2016). Given this, Wilamarta (2012), argued that for banks to survive the global turbulence, protect the overall worth and interest of shareholders, ensure compliance to rules and improve their operations, CG cannot be overlooked or downplayed. This clearly shows the importance of CG within the banking industry. By inference, it is clear that CG is very vital and critical in providing the appropriate framework through effective supervision and monitoring of banking operations. Consequently, the overall framework of CG includes board composition and structure, principles, pillars, practices that are required to ensure banking operational stability, rise in profitability and survival enhancement.

The critical role of CGM has prompted vast studies on CG in business and finance literature. Arouri, Hossain and Muttakin (2011) examined the effect of corporate governance using ownership structure and board characteristics and bank performance in Gulf Cooperation Council (GCC) countries and found out that CG has a direct effect on bank performance. Moreover, Bernadette and Corina (2015) also conducted a study on financial regulations, policies and monitoring and established that these CG indicators have an association with banking performance. Rashid, Zobair, Chowdhury and Islam (2020) assessed the relationship between the productivity of banks and corporate governance in Bangladesh concluded that the implementation of effective corporate governance structure such as financial performance integrity, ownership structure, and board characteristics of banks have impacts on banking performance. Several other studies have examined CG and performance relationship (e.g. Tunay and Yüksel, 2017; Hassan et al.,

2016; Ciftci, 2019; Zabira et al., 2015; Borlea et al., 2017; Chenini and Jarbou, 2016; Malkawi, 2018; Ibrahim et al., 2019; Al-ahdal et al., 2020).

There have been other studies in Ghana that looked at corporate governance and banking performance. Arthur (2016) undertook a study to examine the impact of corporate governance practices on bank performance of Banks in Ghana. Arthur (2016) concluded that there is a significant relationship between corporate governance and banking performance measured in terms of return on equity and earnings per share. Owiredu and Kwakye (2020) analysed the effect of corporate governance on the financial performance of commercial banks in Ghana and found out that there is a significant positive relationship between corporate governance and financial performance. However, a review of the extant literature on CG-performance links shows that there is a paucity of studies that have employed credit risk as an intervening variable in the relationship between CG and performance. In this regard, this study attempts to investigate the relationship between CG and performance, and tries to introduce credit risk as a mediating variable to establish the link between CG and the performance of banks in Ghana.

Banks need to put in place certain mechanisms to make decisions and evaluate decisions in rapidly growing financial markets. Among these criteria, the risk is the most important one. Risk is the possibility of facing undesired circumstances. Successful management of risk is a crucial instrument that increases banks' profitability and growth. One of the most important risks that banks are exposed to is credit risk, which involves loans that are not paid back. Sinkey (2002) defines credit risk as to the potential that a bank borrower or counterpart will fail to meet its obligation under agreed terms. Credit risk can be defined as the risk that a firm's customers and parties to which it has lent out money will delay or fail to make payments based on the agreed terms (Coyle, 2002). Credit is the major source of revenue to the banks. Credit, therefore, poses major risks to banks due to the high default rate among borrowers. This calls for sound risk management techniques in the banking industry.

Banking performance is viewed differently by stakeholders in the banking sector. In the views of Bikker (2010) stockholders recognize banking performance as profits made by banks on their behalf, while consumers view performance as the ability of banks to meet their demands promptly when they call on them. Shebalkov, Sharma and Yukhanaev (2016) and Thagunna and Poudel (2013) hinted that some of the measuring indicators of performance include total assets, total equity, total deposit, net loans to customers, and net income. Owusu-Antwi, Mensah, Crabbe and Antwi (2014) also noted that banking performance indicators include capital adequacy, asset quality, earnings and profitability, interest rate spread, liquidity, sensitivity to market risk. Banking performance is also measured in terms of operational efficiency, cost of operation, profitability and number of operational branches. Stankevičienė and Mencaitė (2012) posited that one of the effective means of measuring banking performance is through the application of accounting such as return on assets (ROA) and return on equity (ROE).

The banking sector in Ghana reflect the economic health of the country but it is touted as experiencing significant challenges due to poor risk management practices resulting in mergers and acquisition within the Ghanaian banking sector in recent times. This underscores the reason why Hawkins and Mihaljek (2011), indicated that the banking sector internationally is undergoing a significant level of transformation. The forces of change influencing the overall banking regime include technology, banking frameworks, government policies, domestic competition, global competition, corporate behaviour, culture, shareholders worth prioritization and banking survival pressures (Hawkins & Mihaljek, 2011; Wakarmamu, 2015).

These forces coupled with the rise in banking innovation and business complexities have intensified the risks banks are opened to within the financial sector (Wakarmamu, 2015). The most obvious risk in the banking sector is credit risk. The advent of numerous microfinance institutions, savings and loans companies, commercial banks, and other financial institutions, with all these institutions giving out loans mostly led to double borrowing due to poor diligence. Also, changes in macro-economic conditions such as inflation and interest rates have contributed to the need for effective credit risk management in Ghanaian banks since they cannot hide from performing their major tasks of extending credit to businesses and individuals. As a result, Ghanaian banks have suffered from huge losses with most of them winding up due to non-performing and bad loans. There have been concerns from businesses and individuals about banks collapsing and bolting away with clients' hard-earned savings (Duodu, 2019; Daily Guide, 2013). Sadly, many people who are defrauded by the banks are the poor and vulnerable in society

(Adogla-Bessa, 2017). Enterprises struggle to sustain their businesses and pay their workers. The increasing reported cases of collapse of banks seems to be dwindling public confidence in operations of banking institutions in Ghana (Ayeh, 2017; Kwansah, 2011; Tenkorang, 2011). Credit risk management, therefore, needs to be robustly processed to enable banks to proactively manage loan portfolios to minimize losses and earn an acceptable level of return.

### 1.1 Significance of the study

Firstly, the study will review and analyse comprehensively theoretical and conceptual literature on corporate governance, credit risk management and financial performance. Adequate and relevant literature will be reviewed taking into consideration the various dimensions of corporate governance, credit risk management and financial performance in the banking sector. Different aspects of corporate governance, credit risk management and financial performance will be analysed because though the concepts of corporate governance, credit risk management and financial performance are widely researched, they are generic. The conceptual definitions of this study will be unique and practical as well as contain relevant information with emphasis on the Ghanaian context. The study will develop theoretical concepts that will facilitate full implementation of all dimensions of corporate governance, credit risk management and financial performance indicators in the Ghanaian banking sector.

Second, the study will extensively contribute to the theory by developing standardized scales on corporate governance, credit risk management and financial performance in the Ghanaian banking sector. It is recognized that there are existing tested standardized scales on corporate governance, credit risk management and financial performance and this study will effectively modify such tested scales to suit the operations in the Ghanaian banking sector. The study will ensure that these developed standardized scales on corporate governance, credit risk management and financial performance are unique in modifying and introducing their new indicators and dimensions to the standardized scales on corporate governance, credit risk management and financial performance more appropriate and relevant to the Ghanaian context. The development of the standardized scales on corporate governance, credit risk management and financial performance will incorporate the recent happenings in their Ghanaian banking sector.

The identification of indicators of corporate governance, credit risk management and financial performance in the banking sector of Ghana from the perspective of bankers will be a key initiative in the study. The adequacy and exhaustiveness of the items used on the various indicators of corporate governance, credit risk management and financial performance will be revealing and will serve as a foundation for future research. The result from the study will be useful to the management of the hospitals in understanding the role of corporate governance on risk management and how it affects the financial performance of the banks. Here, the management of the banks can make use of the data obtained from the study to develop strategic measures to ensure the organisations enjoy an improved risk management system by their boards that will improve financial performance. Moreover, government and policymakers will benefit from the result of the study in the development of policies as they can gain a better understanding of how risk is being managed in banks as well as the financial performance of banks.

The findings on corporate governance and banking performance will also be relevant to the empirical literature. Thus, the study can be used as a source of reference for related studies that may be conducted in the future. These dimensions of corporate governance, credit risk management and financial performance will play a vital role in the banking sector, especially in improving performance among banks.

## 2.0 LITERATURE REVIEW

Price (2018) suggested that, even though the notion of corporate governance has been around for a long time, it was only fully realized in the United States of America in the 1970s. The Securities and Exchange Commission (SEC) implemented corporate governance changes at this time (Cheffins, 2011). Due to the rise of companies, the United States saw significant economic growth and expansion following World War II. This had a significant influence on corporate governance since managers had sole authority over important decisions, and business owners and board of directors were supposed to simply obey the managers' orders (Cheffins, 2012).

This was predicated on the authority and decision-making balance held by the company board, management, and shareholders. Therefore, Morck and Steier (2008) revealed that businesses' executives began abusing or misusing the privileges bestowed upon them based on their personal ideological, moral, and economic convictions. Interest in corporate governance research intensified in the mid-1980s when the Organization for Economic Co-operation and Development (OECD) put in place measures to transform member nations' economic and political environment of member countries to reduce malpractices and eventual collapse of businesses (L'huillier, 2014). The deployment of corporate governance in academics and management, according to Rubach and Sebora (2009), is linked to increased levels of public focus on high-profile mishandling of national corporations, private organisations, and multi-national organizations.

According to Agyemang and Castellini (2013), corporate governance is a set of influential policy mechanisms used by companies to enhance efficient and effective use of resources to meet a business's operational objectives. Moreover, corporate governance injects credibility in management and enhance a company's success in the capital market. Chibarinya (2014) posited that corporate governance is an institutional arrangement that consists of policy initiatives, procedures, code of conduct designed to meet the needs of stakeholders, particularly shareholders. Chibarinya (2014) further noted that corporate governance is mainstreamed into management processes (planning, directing, and controlling) to improve credibility and transparency. Moreover, corporate governance, according to Lou (2005), is the framework for overseeing and managing a company's stock, identifying structures within the organization, assessing processes for paying salaries and wages, allocating responsibilities among stakeholders, and determining making decisions roles and procedures.

According to Raut (2014), corporate governance is the process of distributing company resources such that all stakeholders, such as owners, financiers, workers, consumers, suppliers, and the community. It also has the potential to hold individuals in charge of overseeing organizational resources responsible by assessing their actions in terms of openness, inclusiveness, equity, and responsibility. The connections between internal and external stakeholders, as well as the purposes for which the business is controlled, are all part of corporate governance (The Institute of Chartered Accountants in England and Wales, 2020). For this study corporate governance may be described as organizations' intentional and purposeful attempts to balance the interests and requirements of diverse stakeholders. Corporate governance may also be referred to as mechanisms that companies use to attain their objectives. The practices, conventions, policies, regulations, and structures that impact how a corporation is managed, controlled, or regulated are referred to as corporate governance.

Corporate governance implementation has a massive influence on an institution's ability to operate properly. Different parties have access to critical information when firms use corporate governance frameworks in their strategic activities, which reduces information asymmetry (Agyemang, Aboagye & Ahali, 2013). As a consequence of the failures and collapses of important and globally renowned corporations in the United States of America, Africa, Europe, Asia, and many other nations across the world, interest in understanding the idea of corporate governance has grown in recent years. The significance of organizational governance in business development, as well as its subsequent effects on general economic growth and development, has led to the establishment and enforcement of corporate governance rules, laws, and legislation. Jovanovi and Gruji (2016) noted that the history of corporate governance is built on instances of extremely ambitious persons who have driven firms to bankruptcy by participating in management misbehaviour and malfeasances to maximize their fortune. The origin of corporate governance may be traced back to the Hudson's Bay Company, the East India Company, the Levant Company, and other important companies founded in the 16th and 17th centuries, according to Cheffins (2012).

, according to Price (2017), also encompasses the following: indicators of measuring the performance of management and board of directors, establishing and explaining the relationship between the board of directors and management, how the board of directors and executive management are appointed and evaluated, the board of directors' tasks, functions, and responsibilities, the company's principles, philosophy, culture, and professional ethics, corporate adherence, risk management, and internal controls criteria, mechanisms for communicating with internal and external stakeholders, and financial reporting style and approach.

Corporate governance practices, according to Martn, Camacho-Miano, and Idowu (2018), may be divided into two categories: internal and external corporate governance practices. The ownership and structure of the business, the makeup of the board of directors, the regularity of board meetings, and remuneration for top managers, are all examples of internal corporate governance practices. The audit committee's membership, external stakeholder's assessment, and the company's creditors and capital financiers are all examples of external corporate governance practices. The primary corporate governance practices, according to Gupta (2014), include the board's constitution, structure, committees, independence and duties. Establishing a functional board, integrating strategies with objectives, being answerable, having a high degree of ethics and integrity, and clarifying roles and duties are some of the best practices of corporate governance, according to Price (2018). The study has divided corporate governance practices into the following categories for easy review:

**Board of Directors:** Due to the duties they serve, boards of directors are highly important in strengthening corporate governance standards incorporate institutions across the world (Cunha 2019). The board of directors is the cornerstone of corporate governance in every business since they operate in the best interests of the shareholders (Zerban, Abdullah & Abdullateef, 2017; Kais, 2017). According to Chen (2019), the board of directors establishes corporate management rules and performs corporate supervision. Isik and Ince (2016) and Zarban and Madani (2017) further revealed that the board of directors has authority over and takes strategic decisions that affect an organization's success. This is because the board of directors has wide responsibilities that impact every aspect of the business (Adams, Hermalin & Weisbach, 2008; Hasana, Omara & Handley-Schachler, 2015; ACCA, 2012).

**Financial transparency and information disclosure:** Financial transparency and disclosure of information, according to Hasana, Omara, and Handley-Schachler (2015), is the process and method of making information about a company's governance, value, and risks available to stakeholders in a periodic manner while also making sure that the information is relevant, dependable, and factual and meets the demand and requirements of the stakeholders. Financial transparency and disclosure of information are becoming essential elements of good corporate governance practice (Haat, Raaman & Mahenthiran, 2008; Stiglbauer, 2010). Through complete engagement and involvement of stakeholders, Bidabad and Sherafati (2019), Zager, Malis, and Novak (2016), and López-Arceiz et al. (2017) noted that corporate governance identifies and prevent mismanagement, embezzlement, fraud, and false financial reporting. Financial transparency and information disclosure, according to Kachouri and Jarboui (2017) and Mohamad (2004), allow shareholders to get appropriate data to supervise managers' actions and inactions by reducing knowledge asymmetries.

**Ownership and management:** Investors are becoming active owners in corporations in the present global business climate, confronting managers and directors and even having the authority to change the composition of boards and senior management teams (Johnson, Schnatterly, Johnson, & Chiu, 2010). The owners of a company have the authority to compel management to take certain competitive measures that have an impact on the company's performance and fortunes (Walt, Ingley & Diack, 2010; Brunninge, Nordqvist & Wiklund, 2007; Carney, 2005). Organizational managers sway strategic choices through aligning shareholders' and managers' interests through remuneration, particularly long-term performance-based rewards like stock ownership and stock options. The actions and decisions of management must be reviewed by the shareholders according to their interests (Shen & Gentry, 2012; Boyd & Solarino, 2016).

## 2.1 Theoretical Review

The Agency Theory was used to comprehensively evaluate corporate governance and bank performance in this study. The agency relationship has long been one of the most vexing issues in business. This agency problem has existed since man first transacted commerce, but it acquired traction throughout the industrial revolution. This agency dilemma affects every corporate organization in varying degrees and proportions. The origins of Agency Theory may be found in economics. When Adam Smith delivered a lecture on the topic "Wealth of Nations" in 1776, he advanced the agency theory forward academically. This happened with the emergence of joint-stock corporations, which brought with them problems between owners, management, and the board of directors (Bendickson et al., 2016). With the

advent of the free business system, the interaction between owners, managers, and the board of directors became essential and dynamic.

According to Panda and Leepsa (2017), professionals utilize the Agency Theory to solve problems involving the idea of a two-party agency connection. The schism between ownership and control gave rise to Agency Theory (Almeida, 2014). The principal-agent connections are central to contemporary Agency Theory (Bendickson et al., 2016). Agency Theory has been widely researched by several academics. Max Weber, the famous German sociologist, is one of these experts. The Agency Theory explains how one party, the agent, acts for and on behalf of another party, the principal, resulting in a loss of value or wealth (Jahera & Colbert, 1988).

Agency Theory on corporate governance, according to Royae and Dehkordi (2013), is based on delegation. The separation of owners of organizations from stakeholders who are responsible for daily supervision and administration of the organizations' activities, according to Cohen and Hanno (2000), is the concept of delegation in organizations. According to Jensen (2002), the application of Agency Theory is to persuade managers and board of directors to prioritize stockholders' and shareholders' interests, as well as the company's profit, over their own. However, the board of directors and managers frequently make choices that are in their own best interests rather than the best interests of the owner, resulting in a possible conflict of interest. Another important component of the Agency Theory is that boards of directors and management typically focus on decisions that benefit their short-term interests rather than the company's overall interests. The agency theory also relates to the current study topic as it explains the impact of the decision of boards of organisations in managing organisational factors like a financial risk that may affect the performance of the business organisation. Here, the theory explains the need to put aside self-interest in the management of a business organisation as a means of promoting organisational success.

## 2.2 The Relationship Between Board Independence and Financial Performance.

Stiglbauer (2010) examined the link between corporate governance transparency and company performance using more than 100 German companies listed on the Frankfurt Stock Exchange's Prime Standard section. According to the study's findings, there is a substantial positive link between corporate governance and company performance and openness and information disclosure. However, there was no substantial link between business performance and stated conformity with the German Corporate Governance Code. López-Arceiz et al. (2017) investigated the influence of corporate social responsibility disclosure as a transparency tool, as well as strong corporate governance practices, on the financial performance of socially responsible firms in Tunisia. Companies that wish to raise funds on the financial markets must have excellent corporate governance and a high degree of disclosure on corporate social responsibility, according to a study that used a set of simultaneous equations to examine the link. Korent, unek, and alopa (2013) performed research in Croatia to see if there was a link between firm success and corporate governance procedures. From 2007 to 2010, secondary data was used in the research. According to the findings, corporate governance independence has a significant impact on business performance.

The function of regulatory organizations in connection to financial reporting and ethical compliance in Nigeria was investigated by Babayanju, Animasaun, and Sanyaolu (2017). The study employed a field survey approach to obtain primary data from 100 respondents, who were selected using a stratified sample methodology. Accounting ethics had a substantial influence on the quality of financial reporting, according to the study, which used descriptive and inferential statistics to evaluate the data. Furthermore, there was a high level of ethical compliance among accountants. The study conducted by Mudashiru et al. (2014) on the link between corporate governance and organisational effectiveness also indicated that board independence is significantly correlated with organisational performance, according to the study's findings. Hasana, Omara, and Handley-Schachler (2015) investigated corporate governance in the framework of the positive reinforcement theory of motivation. Between 2010 and 2011, the study used non-financial listed companies on the Dhaka Stock Exchange (DSE). The data was evaluated using bivariate analysis, ANOVA, and a multiple regression model, and it was discovered that corporate governance independence had a favourable influence on revenue creation.

Arthur (2015) conducted another study in Ghana to see if there was a link between corporate governance practices and bank performance. The study gathered information from nine Ghanaian banks' annual financial reports. In comparison to banks that are not listed on the Ghana Stock Exchange, the study discovered that banks listed on the Ghana Stock Exchange had a higher degree of corporate governance procedures. The results showed that corporate governance independence practices have a positive and weak relationship with banking performance in terms of return on equity and earnings per share, as well as a negative and weak correlation with banking performance in terms of return on assets, using a quantitative approach and a scorecard approach.

Al-Kassar and Al-Nidawiy (2014) investigated corporate governance concepts. The study employed a questionnaire to obtain data from respondents from Amman Stock Exchange-listed industrial firms. The study revealed that the principles of corporate governance such as board independence are applied in industrial firms to improve financial performance. The study involved banks listed on the Amman Stock Exchange, and data gathered was analysed using the Statistical Package for Social Sciences (SPSS), regression, and correlation analysis.

H2: There is a relationship between audit independence and financial performance in organisations

### 2.3 The Influence of Risk Management in the Relation Between Board Size, Independence and Financial Performance.

In an attempt to avoid and identify fraud, Zager, Malis, and Novak (2016) performed research in Croatia on the roles and duties of important stakeholders in reporting financial information. The study employed a questionnaire, and it was discovered after analysis that asset theft by management is a prevalent kind of fraud discovered by auditors while reviewing financial accounts. The study also discovered that false financial reporting by the board had a detrimental impact on a company's financial performance. Gouiaa (2018) investigated the link between corporate governance frameworks and enterprise risk management in publicly traded firms in Canada. The study used a content analysis method and discovered that corporate governance factors including board structure, director qualities, and board operating procedure had a substantial impact on the development of an integrated risk management strategy. Furthermore, the study discovered that the qualities of directors and the board's procedure have a substantial impact on the quality of risk management, particularly financial risk which affects financial performance.

Djebali and Zaghdoudi (2019) researched to see how banking governance affects credit risk. Between 1998 and 2015, data from ten Tunisian banks were used in the study. Credit risk and liquidity risk are strongly connected to bank governance systems and this influences the performance of finance, according to the study, which used an econometric methodology. The impact of corporate governance on financial performance was investigated by Martn, Camacho-Miano, and Idowu (2018). The study employed multivariate statistical analysis on 237 companies from the Standard & Poor (S&P) 500 index from 2004 to 2009. According to the findings, having a strong corporate governance culture has a favourable influence on a measure of a company's financial success. A larger percentage of external directors has a favourable association with financial performance, but the number of board meetings has a negative correlation with financial performance.

Rubach and Seborá (2009) looked at the Ryan and Schneider model, which recognized determinants of activism, such as net worth, investment timeframes, performance standards, pressure sensitivity, legal restraints, and internally or externally portfolio management. The model was tested with 102 institutional investors, and only limited support was found: institutional shareholder size, investment time horizon, and internal corporate finance are all major predictors of institutional shareholder activism, according to the study. Legal restrictions were shown to be insignificant antecedents in the research. Findings also indicated that the role of boards in the development of risk management influences financial performance.

Babanskiy (2012) conducted research to determine which indicators in the Russian banking sector had the strongest prediction potential for bank distress. The study included data from more than 1000 financial institutions in Russia. The data were analyzed using parametric probit and logit models. Profitability, liquidity, and capital financial measures achieved by the board of an organisation were revealed to be extremely important drivers in predicting bank failures in the study. Li (2013) also looked

at how bank characteristics and economic factors impact bank failures during financial crises. Between 2007 and 2012, Li (2013) used a logistic regression model to collect data from all FDIC-insured commercial banks in the United States. The study's findings indicated that the management of loan and lease to total assets ratio, real estate loan ratio, and nonperforming loan ratio all had a favourable impact on bank performance, but capital adequacy ratios, return on assets, liquid ratio, and GDP growth rate all have a negative impact.

### 3.0 METHODOLOGY

This presents the research strategy of the present study. Included in this chapter are information on the population and sample of research participants, research design, sources of data and descriptive of variables. In addition, data analysis techniques are presented.

#### 3.1 Research Design and Approach

The selection and use of research methods and approaches are based on the kind of research design selected for a study. In the views of Taylor and Medina (2011) and Creswell (2013), the research design is a technique to describe how, when, and where data are to be collected and how the data will be analyzed. It is a technique for ascertaining and explaining how data will be collected and what and which instrument to be employed to collect data. There are many research designs. In social science, three major research designs are mostly used to investigate a phenomenon namely explanatory, exploratory and descriptive.

Based on the topic under investigation and the objectives of the study, the explanatory research design is employed to facilitate effective data collection and analysis. The selection of the explanatory research design is informed by its ability to provide an opportunity to effectively examine the effect of corporate governance on the performance of banks using credit risk management as a mediating factor. One of the major critical indicators of successful and impactful research is the use of relevant and appropriate research approach that best suit the selected research design.

Goran (2010) noted that research approaches are important methods in research with significant effects on the research design. Based on the research design and research objectives, the study employed a quantitative research approach as the key method to investigate the topic. The application of the quantitative research approach in the study is relevant and justifiable based on the fact that the choice of this approach is to assist the study to gather numerical data and also analyze the data quantitatively. Again, the application of the quantitative approach is to assist the study to examine the connection and relationship existing between corporate governance, credit risk management and banking performance.

#### 3.2 Population and sample size of the study

In the views of Onyiuke (2005) population of a study or research talks about the total number of objects or people needed to conduct research. It is for the benefit of the population that research is conducted. The population is used to generalize the outcome of the results obtained from the study. The population for this study was the commercial banks currently licensed and operating in Ghana. The commercial banks that make up this population were 23.

#### 3.3 Sampling techniques

Mohsin (2016) noted that a sample is the subset of the population selected for a research study. Sampling is the process of examining a unit of the population to obtain in-depth knowledge about the universe. However, based on the research objectives, the study utilized the convenience sampling technique. The convenience sampling technique was to provide good grounds upon which banks with data available and accessible are used. The inclusion criteria for the selection of banks for the study was that the banks must have existed on or before the year 2016. This was to ensure that banks that merged or were created as a result of the 2017-2018 banking sector clean-up were excluded since they don't have data over the 10 years under consideration. In all, 12 banks were selected for the study.



3.4 Data and Data Source

Concerning the source of data, the study used secondary data to assess the topic under study. The data were collected from the annual reports of the banks which were obtained from the websites of the individual banks. The data were panel data on 12 banks over 10 years from 2011 to 2020.

3.5 Model Specification, Variables Measurement and Analysis

*Econometric Model(s):* The econometric models for estimating the relationship between the variables of the study were given as follows:

$$ROA_{it} = \alpha + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 SZ_{it} + \beta_4 INF_{it} + \beta_5 GDP_{it} + \epsilon_{it} \dots\dots\dots (1)$$

$$ROA_{it} = \alpha + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 CR_{it} + \beta_4 SZ_{it} + \beta_5 INF_{it} + \beta_6 GDP_{it} + \epsilon_{it} \dots\dots\dots (3)$$

Where:

- α = the constant term/intercept
- β1-B6 = the regressors (i.e. coefficients of regression)
- ε = Error term
- ROA = Return on the asset for a bank at end of a financial year
- BS = Board size for a bank at end of a financial year
- BI = Board Independence for a bank at end of a financial year
- CR = Credit risk for a bank at end of a financial year
- SZ = Size of a bank at end of a financial year
- INF = Inflation rate at end of a financial year
- GDP = GDP growth rate at end of a financial year
- The subscript i and t = individual bank and a year respectively

*Description and Measurement of Variables:* The variables for the study were operationalized as follows:  
**Variables Description and Measurement**

VARIABLE NAME	OPERATIONAL MEASUREMENT	SYMBOL
Dependent Variables		
Performance	Return on asset = PAT/Total Assets	ROA
Independent variables		
Board Size	The total number of directors on the board at the end of a financial year	BS
Board Independence	The percentage of Non-Executive Directors on the board at end of a financial year	BI
Mediating variable		
Risk management	Credit risk = loans to total assets ratio	CR
Control variables		
Bank size	Natural log of Total Assets	BSZ
Inflation	Annual consumer price inflation rate	INF
GDP rate	Annual GDP growth rate	GDP

*Data Collection Instrument:* The data for the study was gathered based on a questionnaire designed to gather secondary data from the financial report of the selected banks. The questionnaire contained sections of questions with labels section A, Section B and Section C. The first section of the questionnaire contained questions that were useful in obtaining financial data relating to the first objective of the study. The subsequent sections were labelled sections B and section C and contained questions useful in gathering secondary data relating to the second and third objectives of the study respectively.

*Data Collection Procedure:* To begin the data collection procedure, a letter was submitted to the management of the selected banks seeking permission for the study to be conducted on their premises. After the approval of the letters, the study began by first retrieving documents from the financial reports

of the selected banks. This was done with supervision from a finance officer in all selected banks. Moreover, the collection of data was scheduled for an appropriate time to prevent interference with work activities. The data collection process involved an average time of one hour for each bank. The data collection was purposely undertaken to obtain secondary data that relates to the objectives of the study. Here, data gathered from the financial reports of banks included information on the financial performance of the selected banks, the board size, board competence and risk management.

*Data Analysis:* Given the nature of the data, the study employed the seemingly unrelated regression equation (SURE) model which was introduced by Zellner (1962) and reinforced by Bopkin and Arko (2009). The analysis was done following the panel estimation procedures. The analysis was done with the aid of the Stata statistical software version 24.

#### 4.0 DATA ANALYSIS

Mediation is a hypothesized causal chain where one indicator or variable (i.e. the first variable: explanatory variable) affects another variable (i.e. the second variable: mediating variable) which in turn influence another variable (i.e. the third variable: response). The intervening variable is referred to as the mediator (M) and it mediates the association between an explanatory variable (X) and a response variable (Y). The mediation relationship can be presented graphically as  $X \rightarrow M \rightarrow Y$ .

Table 4.1: Results of nlcom test for mediation effect on board size and independence and ROA

Mediation	Coefficients	SE	t Stat	P-value
BS	-0.057	0.032	-1.776	0.041**
BI	0.034	0.062	0.549	0.012**

\*\*Significant at 5%,

Source: Output from secondary data computation from Stata

The mediation effects of risk management (proxied with credit risk) on the relationship between board size (BS) and ROA as well as board independence (BI) and ROA are presented in Table 4.5. The results confirm that credit risk significantly mediates the relationship between BS and ROA. The indirect coefficient using credit risk as a mediating factor is -.057 and the p-value is .041 less than the 5% level of significance. The results in Table 4.5 further show that credit risk significantly mediates the relationship between BI and ROA. The results show that with the introduction of credit risk as the mediating factor, the indirect coefficient is 0.034 and the p-value is .012 less than the 5% level of significance.

The results above indicate that when corporate governance is improved by increasing board size and board independence, it leads to increased risk management (credit risk management) which in turn enhances the performance (ROA) of banks. The results of the mediation effect of credit risk show a full mediation in the relationship between BS and ROA whilst the mediation effect on the relationship between BI and ROA is a partial mediation.

#### 4.1 Summary of Results

Table 4.2: Results summary

Hypothesis	Beta (coeff)	t-value	P-value	Decision
H1: There is a significant relationship between board size and return on assets.	-0.018	-0.601	0.552	Rejected
H2: There is a significant relationship between board independence and return on asset	0.010	4.548	0.000	Supported

H3: Credit risk management significantly mediates the relationship between board size and return on asset.	-0.057	-1.776	0.041	Supported
H4: Credit risk management significantly mediates the relationship between board independence and return on assets.	0.034	0.549	0.012	Supported

#### 4.2 Discussion of Findings

**Board Size and ROA:** The study reveals that BS have insignificant negative effect on ROA [ $\beta = -0.018$ ,  $p\text{-value} = 0.552 > 0.10$ ]. The results indicate that a unit change in BS leads to a 0.018 units change in ROA but in a negative direction. This means that when BI increases by a percentage, ROA declines by 1.8% and vice versa. However, the result shows an insignificant relationship which indicates that there is no link between the two variables. This result disputes the first hypothesis of the study that there is a significant relationship between BS and ROA. This result somehow is consistent with the result of the studies by Tunay and Yüksel (2017), Hassan et al. (2016), Ciftci (2019), and Appiah, Awunyo-Vitor and Awuah (2017) which all reveal an inverse relationship between BS and ROA, but these studies find the relationship to be significant unlike the case of the current study which is reporting an insignificant relationship. Unlike the above studies, the result of the study sharply contradicts the findings of a study by Akdogan and Boyacioglu (2014) which report that board size positively and significantly affects ROA. The result disagrees with the outcome of a study pursued by Munisi and Randøy (2013) which reveal a strong direct link between board size and performance. Similarly, the result is discordant with the finding of Basuony, Mohamed and Al-Baidhani (2014) which indicate that board size exerts a direct significant influence on ROA.

**Board Independence and ROA:** The study reveals that BI significantly and positively influences ROA [ $\beta = 0.010$ ,  $p\text{-value} = 0.000 < 0.05$ ]. The results indicate that a unit change in BI leads to 0.010 units change in ROA but in a positive direction. This means that when BS increases by a percentage, ROA increases by 1%. This result confirms the second hypothesis that there is a significant relationship between BI and ROA. The above result agrees with the finding of a study done by Arora and Sharma (2016) which report a significant direct effect on performance. The current result of the study also supports the results of Puni and Anlesinya (2020), Chakrabarti et al. (2010), and Reddy et al. (2010) which report a significant positive link between board independence and performance. Again, this current result is in concordance with the results of the studies by Zabira et al. (2015), Borlea et al. (2017), Chenini and Jarboui (2016), Malkawi (2018), Ibrahim et al. (2019), and Al-ahdal et al. (2020) which report significant positive relationship between board independence and performance. Contrastingly, the current finding is inconsistent with the outcome of a study conducted by Vo and Nguyen (2014) which report an inverse relationship between board independence on firm performance in Vietnam. The result also disagrees with the work by Fidor (2013) which shows that board independence affects performance. The result is further incongruent with the finding of a study done by Mnasri and Ellouze (2015).

#### 5.0 CONCLUSION

The objective of the study is to establish the mediating effect of risk management (credit risk management) on the relationship between board size and independence and performance (ROA). The study discovers that credit risk management exerts a significant mediation effect on both the relationship between board size and ROA and board independence and ROA. The results confirm the third and second hypotheses of the study. This result confirms the second hypothesis that there is a significant relationship between BI and ROA. The study employed a quantitative research approach and panel methods. The population involved commercial banks in Ghana of which 12 banks were sampled based on the convenience of obtaining data. The inclusion criteria were data availability for all the 10-year periods considered for the study. The study sought to examine the relationship between corporate governance,

risk management, and performance. Specifically, the study sought to investigate the relationship between board size and performance as well as board independence and performance. It also particularly sought to establish the mediation effect of credit risk on both the relationship between board size and performance and board independence and performance.

The study employed a quantitative research approach and panel methods. The population involved commercial banks in Ghana of which 12 banks were sampled based on the convenience of obtaining data. The inclusion criteria were data availability for all the 10-year periods considered for the study. The study found that board size has a negative relationship with ROA but the relationship is insignificant. The study also found that board independence is significantly and positively related to ROA. The study further found that credit risk significantly mediates the relationship between both BS and ROA and BI and ROA. The conclusion is therefore made that banks strengthen the independence of their board of directors to enhance performance since the study indicates an improvement in independence yield positive outcomes on performance.

Results from the study show that board independence exerts a significant positive influence on performance. Based on this finding, the recommendation is made that banks improve the independence of their board by appointing a significant number of non-executive and independent directors since evidence from the study reveals enhanced board independence enhances performance. Even though it is revealed that board size has an insignificant link with performance, it is recommended that banks ensure that they maintain an appropriate board size given regards to their size and level of operations. This will ensure that board members are not overloaded with activities due to extremely thin board size since that can have adverse implications on the performance and sustainability of the banks. From the results obtained from the study, it was revealed that board independence and size helped improve ROA.

It is recommended that the government through the Banks of Ghana and relevant stakeholders support the banks in risk management activities since that affect corporate governance practices to improve the performance of banks, which would have positive implication for the overall financial system of the country. As indicated by the study results, poor management of the boards affects the financial performance of banks. It is recommended that banks recruit the right calibre of persons with the necessary skills to implement corporate governance practices. It is also advised that banks strengthen their risk management committees with the right people who possess the competence to minimize the risk in the banks.

The suggestion is made that further studies be carried out to assess the relationship between corporate governance, risk management, and performance in the rural banking context in Ghana. The suggestion is also made that further research needs to be conducted to examine the individual corporate governance and credit risk management practices comprehensively. This will broaden the knowledge on the specific effects of individual corporate governance and credit risk management practices on individual bank financial performance. The study suggests that additional studies be conducted to assess the effect of corporate governance on other aspects of performance including marketing performance, operational performance, and administrative performance among banks in Ghana.

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