UNIVERSITY OF CAPE COAST

FINANCIAL SECTOR CRISIS IN GHANA: A STUDY OF THE UNDERLYING CAUSES

DIVINE ATINYO

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BY

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Thesis submitted to the Department of Finance, School of Business, College of Humanities and Legal Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Commerce degree in Finance

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DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature:………………………… Date:……………………..

Name: Divine Atinyo

Supervisor's Declaration

I hereby declare that the preparation and presentation of this dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Signature:…………………… Date:……………………

Name: Mr. Seyram Kawor

ABSTRACT

Causes of financial crisis have been widely explored. Some of the studies looked at credit risk, financial distress and corporate governance against financial crisis, but as separate entities. Thus, this study sought to analyse the underlying causes of financial crisis in Ghana. The sequential explanatory mixed methods design was employed to ensure triangulation of findings. Using the criterion sampling technique, 22 out of 23 commercial banks in Ghana made up the sample size for the study. The quantitative data were extracted from the banks' annual reports for the periods 2010 to 2019 whereas a semi-structured interview guide was used to collect qualitative data from managers of all the 23 banks. The quantitative data were analysed using the binary logistic regression estimated by the Maximum Likelihood Estimation (MLE) where normal distribution was assumed, whilst the thematic approach was used for the qualitative data analysis. Results revealed that credit risk, financial distress and corporate governance all have statistically significant effects on the odds of financial crisis occurring in Ghana. The qualitative finding also revealed political and social instability, governance issues, financial distress, credit problems, and supervision and regulatory issues to be the causes of financial crisis in Ghana. It was recommended that Board of Directors and Management of banks be put under constant surveillance to ensure that the banks' resources are not used for personal gains. Finally, suggestions were made for future studies.

KEY WORDS

Banks

Corporate governance

Credit risk

Financial crisis

Financial distress

Financial sector

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DEDICATION

To my mother, Comfort Adzo Dapaah

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LIST OF ACRONYMS

AIG	American International Group
BoG	Bank of Ghana
ECOWAS	Economic Community of West African States
IMF	International Monetary Fund
KPMG	Klynveld Peat Marwick Goerdeler
MoF	Ministry of Finance
PwC	PricewaterhouseCoopers
SPSS	Statistical Package for the Social Sciences

CHAPTER ONE

INTRODUCTION

This study is aimed at critically analysing the causes of financial crisis in Ghana. The financial sector plays a pivotal role in a country's development and growth, but its stability is very useful in achieving the full potential and contribution of the sector. The sector's stability has been shaky in recent times. This chapter presents the background to the study, statement of the problem, purpose of the study, research objectives, and research hypotheses. Also, the chapter presents the significance of the study, delimitations, limitations, definition of terms; and finally, organisation of the study as well as chapter summary.

Background to the Study

Financial sector crisis, according to Stubley, Paparas, Tremma and De Aguiar (2018) and the International Monetary Fund's World Economic Outlook (2018), is any massive variety of events or situations in which some assets, usually those related to institutions within a financial sector, lose a huge part of their nominal value. The World Economic Outlook (2018) and Stubley et al. (2018) assert that banking crisis, stock market crisis or debt crisis can variously be referred to as financial crisis

Financial sector crisis is an issue of global importance among governments, agencies, policy makers, scholars and researchers which can be caused by corporate governance, financial distress and credit risk, among other subtle factors (Reinhart, & Rogoff, 2012). The last two decades of the 20th century witnessed a series of financial crisis. In the early 1980's and 1990's, a score of developed and developing countries, and some economies in the lane of transition encountered severe financial crises, particularly in the area of banking (Bhanot, Burns, Hunter, & Williams, 2014). According to Klomp and De Haan (2010), there were over 130 financial crises in about 110 countries since the 1980's. These crises devastatingly led to disruption of flow of credits to individuals, households, and business firms. Investment and consumption were reduced, forcing sound and viable businesses into bankruptcy and an ultimate shutdown (Bhanot et al., 2014).

Also, since the final quarter of 2008, the global financial crisis and its associated effects on the world's economy have been very rapid and devastating (Reinhart, & Rogoff, 2012). According to Reinhart and Rogoff, the devastating impacts of the crisis caused loss of sureness in the financial system, preventing healthy operation of the credit mechanism. This caused increase in credit costs, leading to the desertion of real sector borrowing and credit facilities. World economic growth rates fell sharply, indexes of industrial production shrank to an unprecedented level, and unemployment rates climbed up astronomically (Yilmaz, 2010).

Though literature indicates that research abounds on this phenomenon, and that it is one of the most researched areas in the fields of economics and finance, majority of studies on the phenomenon have been skewed in favour of developed economies (Reinhart, & Rogoff, 2012; Schäfer, Schnabel, & Weder di Mauro, 2013; Winkler, 2010). For instance, Reinhart and Rogoff (2012) focused on the United States and reported that credit and governance issues contributed to financial crisis. Schäfer et al. (2013) and Winkler (2010) also reported that corporate governance issues were responsible for financial instability leading to full-blown crisis.

Though not thoroughly analysed, literature has consistently outlined some specific factors that are responsible for financial sector crisis (Frimpong, 2018; Larnyoh, 2018; Kwesi, 2018; Afolabi, 2018). Prominent among these factors are credit risk, financial distress, and corporate governance (Cucinelli, 2015; Safo, 2018; Nyavor, 2018; Frimpong, 2018). Credit risk becomes a problem when nonperforming loans continue to build up and banks' liquidity gets affected adversely. This may lead to bankruptcy, and ultimately a financial crisis when the banks are unable to meet depositors' demands (Ewert, Schenk, & Szczesny, 2000). Similarly, financial distress may cause banks to dispose of assets to be able to take care of debts, and this may eventually culminate in a total collapse (Tarraf, 2011). Ineffective corporate governance poses threats to the survival of a firm (). If the governing body of banks becomes ineffectual, occurrence of crisis may be inevitable.

Aside the foregoing major variables, some causes have also been associated with individual financial institutions within the financial sector. These include ascertainment of license under false pretense, undercapitalisation, debts, questionable license processes, bad risk management and embezzlement of funds, loan against collateral, and credit management practices (Banker, 2017; Boadi, 2018; Frimpong, 2018; Stephenson, 2018). It could be seen that these financial institution-specific causes can be linked to corporate governance factors.

Moreover, in most cases, borrowers default on their loan obligations to banks. In similar manner, securities issuers, at times, default on their obligations to banks holding their securities. These, according to Cucinelli (2015), fall within the brackets of credit risk. Credit risk has wreaked havoc on many financial institutions, especially, the banks (Boadi, 2018). Mostly, credit risk arises on the side of the borrowers due to low income, loss of income-generating business, death, unwillingness to pay back loans, among others (Owusu, 2019). Apparently, when borrowers default, banks can run into insolvency, and subsequently, into bankruptcy as asserted by the credit market theory (Patnaik, & Vasudevan, 1999). Though credit risk has been stated in literature to have had devastating effect on financial systems, as stated earlier, majority of the extant literature focused on developed economies (Yilmaz, 2010; Cucinelli, 2015).

The Bank of Ghana states that one of the major factors responsible for instability of a financial sector is financial distress (BoG, 2018). Ability of banks to meet their financial obligations is a mark of good performance. A bank might be in a financial distress if it struggles to generate sufficient profit to meet its obligations; thereby, breaking promises to creditors (Afolabi, 2018). This may lead to, among other things, increase in operating costs, and decrease in profitability, as the bank would have to rely on credit facilities, which come with costs, to meet its obligations; this process is described by the Altman's (1968) model. Consequently, there may be capital reduction culminating in undercapitalisation (BoG, 2018; Afolabi; Cucinelli, 2015). An analysis of financial distress is imperative as past studies did not consider its influence on the occurrence of financial crisis (Ajakaiye et al., 2010).

Corporate governance has also been associated with occurrence of financial sector crises (Winkler, 2010; Reinhart, & Rogoff, 2012; Ajakaiye et al., 2010). According to Kwesi (2018), corporate governance is one of the major causes of financial sector crises; however, there is paucity of studies which did a detailed analysis on this factor. Corporate governance has mostly been cited to have been poor at the top level management of financial institutions, but most of the studies done on this factor considered the developed economies (Bhanot et al., 2014; Roy, & Kemme, 2012). Usually, the nature of corporate governance reflects in how managers of financial institutions run the institutions as the corporate governance theory (Berle, & Gardiner, 1968) sought to explain. Many managers focus on serving their personal interests than that of the institution they owe fiduciary duties to. Managers do advance loans to their relatives and payback becomes an issue (Banker, 2017).

Issues of financial sector crises have been attended to and addressed with urgency in the developed countries than it is the case in less developed countries (Schäfer et al., 2013). Studies indicate that most developing countries of which Ghana is part, demonstrate insufficient competitiveness considering the way they run their financial sectors (Allen, Otchere, & Senbet, 2011; Asamoah, & Owusu-Agyei, 2020). The level of incompetence demonstrated by key stakeholders in the financial sector lead the sector into many challenges, including a total halt in some of the sector's operations which in turn lead to a fall in productivity.

It is very important to study the causes of financial sector crisis, especially, in the context of Africa where empirical studies in this area are inadequate (Allen et al., 2011). According to Allen et al., the financial sector in Africa houses, among other things, central banks; deposit-taking banks; non-bank institutions, such as the stock markets, fixed income markets, insurance markets, and microfinance institutions. In Ghana, the sector is dominated by deposit-taking banks, otherwise referred to as commercial banks, and microfinance institutions (Stephenson, 2018). The financial sector contributes about 11.8% to global GDP, and employs about 7.04% of global population (Brennan, Canning, & McDowell, 2020). The sector's credit and assets contribution to Ghana's GDP are about 14.2% and 35.7%, respectively, and provides employment to about 4.33% of Ghana's population (PwC, 2018).

Within a span of two years, the Bank of Ghana, with a comprehensive all-embracing objective of modernising and strengthening the financial sector, with special focus on the banking system, to adequately support economic growth and transformation, collapsed seven (7) universal banks into Consolidated Bank Ghana Limited, assumed two (2) by GCB Bank Limited, and revoked the licenses of about three hundred and forty (340) savings and loans institutions (BoG, 2020; Frimpong, 2018; Nyavor, 2018; Boadi, 2018). This exercise by the Bank of Ghana sparked debates among industry players as some argued that the action was politically motivated (Nyavor; Sikasem, 2017). The exercise hit individuals and businesses hard, as savings, investments and jobs were lost. Some individuals' lives have certainly not been the same due to the crisis. People lost their life savings to some of these defunct institutions (Asamoah, & Owusu-Agyei, 2020).

Statement of the Problem

Presently, the financial sector in Ghana is left with about 23 universal or commercial banks, 135 rural or community banks, and 11 savings and loans or microfinance institutions (BoG, 2020; Sikasem, 2017). The sector recorded a negative growth of 17.7% in 2019, according to the Ministry of Finance (MoF) in its annual budget statement (MoF, 2019). A speech published by the BoG indicated that the collapsed banks were in deep financial distress occasioned by weak corporate governance. This led BoG to come out with a corporate governance structure for appointing management and directorship of banks (BoG, 2018).

Also, according to the Ministry of Finance's budget statement, the BoG had to protect about 1.5million depositors with an amount of GHS7.6billion due to inadequate capital, high levels of nonperforming loans, poor liquidity and credit risk management controls, and weak corporate structures (MoF, 2019). The Ministry went ahead to activate Ghana Deposit Protection Scheme due to these problems. The Financial Times also published that some of the defunct banks' shareholders and partners absorbed about GHS5.3billion, an amount equivalent to 75% of total assets of the banks involved (Sikasem, 2017).

The forgoing led to job losses, and many bank workers had to start petty businesses to eke out a living (Stephenson, 2018). The government of the day had to promise depositors of the defunct banks of paying them back by issuing a 5-

year free coupon bonds to them; however, this arrangement would be without bond certificates (Stephenson, 2018). This led to demonstrations by the depositors of the defunct banks. If lasting solutions are not found to this phenomenon, the devastating effects may persist. Thus far, factors influencing financial crisis appear to revolve around credit risk, financial distress and corporate government (BoG, 2018). These factors may not be entirely exclusive, as managers of the banks are likely to have relevant information concerning the causes of financial crisis.

Nevertheless, to the best of knowledge of the researcher, no study has yet been conducted to predict financial crisis based on credit risk, financial distress and corporate governance, as well as solicit information on the causes of financial crisis from bank managers in Ghana. Prior related empirical studies were carried out in developed countries whose economic conditions are different from that of Ghana (Bhanot et al., 2014; Reinhart, & Rogoff, 2012; Roy, & Kemme, 2012; Veronesi, & Zingales, 2010; Ueda, & di Mauro, 2010); thus, their findings cannot be comprehensively applied to financial decision making in Ghana. Also, in Ghana, reports focused on challenges faced by financial institutions (Nyavor, 2018; Allen et al., 2011; PwC, 2018; Asamoah, & Owusu-Agyei, 2020).

Considering the forgoing, this study sought to assess the effects of credit risk, financial distress and corporate governance on the odds of financial crisis occurring in Ghana, as well as solicit information on causes of financial crisis from bank managers, employing the sequential-explanatory mixed methods design to ensure triangulation and corroboration, and using the binary logistic model to predict financial crisis.

Purpose of the Study

The main purpose of this study was to analyse the underlying causes of the occurrence of financial crisis in Ghana.

Research Objectives

The specific objectives of the study were to:

1. assess the effects of credit risk, financial distress and corporate governance on the odds of financial crisis occurrence in Ghana;
2. identify the causes of financial crisis in Ghana.

Research Hypotheses

In line with the first objective, theories and literature reviewed, the following hypothesis was formulated

H_0^1: There are no statistically significant effects of credit risk, financial distress and corporate governance on the odds of financial sector crisis occurring in Ghana.

Research Question

To achieve the second objective, the following question was asked.

1. What are the causes of financial crisis in Ghana?

Significance of the Study

This study would bring forth an enhanced comprehension of the financial sector and its associated challenges in the Ghanaian context. The study focused on contextualisation of the underlying causes of the odds of the occurrence of financial sector crisis in Ghana and provides new and innovative insights into the causes of financial sector crisis, with a particular focus on banks. The findings of study would serve as a reference material for consultants, financial analysts, government agencies, businesses, non-governmental organisations, researchers, and any other individual interested in this context.

Also, the findings would show whether managers, directors and staff of banks in Ghana need international-standard credit management training to enable them fully understand and appreciate the implications of credit risk for survival of banks. Moreover, based on the findings of this study, potential bank employees may be assessed for in-depth and proven knowledge in credit risk, credit management, and their associated elements before they are considered for positions in the banks.

Further, the findings would reveal whether Board of Directors and Management of banks should be put under constant surveillance to ensure that the banks' resources are not used for personal gains which may plunge the banks into financial distress. In addition, the study in its entirety would contribute to the existing body of knowledge on financial crisis and the possible factors responsible it.

Delimitation

Firstly, this study was delimited to the causes of financial sector crisis. Secondly, only banking institutions within the Ghanaian financial sector were considered for secondary data; branch managers also served as main respondents to interviews for qualitative data collection. Also, the researcher considered only the institutions in existence and duly registered in Ghana at the time of the study.

Institutions which came into being or were on the process of coming into being during the time of this study were not considered. Further, the study considered and analysed only three main possible underlying causes of financial sector crisis in Ghana – credit risk, financial distress, and corporate governance – and also the qualitative data collected from the bank managers of the 23 banks involved in this study.

Limitations

The researcher encountered some limitations. Due to the Covid-19 pandemic, the interviewees needed to practise social-distancing as much as possible. This led to the conduction of all interviews on the phone which denied the researcher the opportunity to take notice of gestures and facial expressions of the interviewees and how these could influence the data. Nevertheless, the researcher tried and obtained valid and reliable data, by paying random visits to some of the banks in order to meet the managers in person.

Definition of Key Terms

Per this study, the key terms are operationally defined as follows.

Financial crisis: A situation where financial institutions lose a huge part of their nominal value, and thus unable to meet increased depositor demands leading to selling of the institutions' investments, or eventual collapse (Stubley et al., 2018).

Credit risk: This refers to failure of borrowers to pay back loan principal and required interest to lenders, banks in this context, leading to disruption to lenders' cash flows and increase in collection costs.

***Financial distress**:* This is concerned with inability of banks to generate adequate liquidity to meet their financial obligations, and breaking the promises made to creditors. This is occasioned by a number of unfavourable financial activities of banks leading to loss of liquidity, resulting in insolvency and eventual bankruptcy.

Corporate governance: Corporate governance is defined as a set of practices or rules employed to direct and control a firm (Chen, 2020).

Organisation of the Study

The study was composed of five chapters. Chapter One involved the introduction which covered the background to the study, statement of the problem, purpose of the study, research objectives, and research hypotheses. It also presented the significance of the study, delimitation of the study, definition of terms, and organisation of the study as well as chapter summary. The second chapter focused on the review of existing related literature in relation to causes of financial crisis. The research methods used for the study were captured in Chapter Three. Chapter Four presented the results and discussion of the study whereas Chapter Five focused on the summary, key findings, conclusions and recommendations; this chapter also made suggestions for further studies.

Chapter Summary

This chapter introduced the entire study. The chapter presented the background to the study which briefly explored the topic under study from different standpoints. The statement of the problem was also presented. The broad purpose for which the study was conducted was stated. Further, the research objectives, and research hypotheses were stated. The researcher then proceeded to discuss the significance of the study. Additionally, delimitation of the study, limitations of the study, definition of key terms, and organisation of the study were discussed. The succeeding chapter presents the literature review.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The purpose of the study was to analyse the underlying causes of financial crisis in Ghana, using a mixed methods approach to ensure triangulation. In line with this purpose, this chapter presents a review of literature on the underlying causes of financial crisis in Ghana. The chapter reviews related theories on credit risk, financial distress, and corporate governance. A background discussion of the banking sector and its activities are presented. Also, the study concepts are discussed in detail. Empirical review is done, taking into consideration the research objectives. Further, considering the study hypotheses formulated, a conceptual framework has been constructed to guide the entire work. Finally, a chapter summary is presented.

Theoretical Framework

To well situate this study in literature, an eclectic of theories have been employed to underpin the hypotheses formulated. Though some of the theories do not directly refer to the concepts examined in this study, their contents are comprehensibly tuned to accommodate and explain the concepts herein. The theories employed include the agency theory, credit market theory, and the corporate governance theory.

Agency theory

The agency theory attempts to explain relationships and self-interest in business organisations (Ross, & Mitnick, 1973; Jensen, & Meckling, 1976). This theory describes the relationship between principal/agent and delegation of controls. It describes how best to organise relationships in which the principal spells out the work and the agent performs or makes decisions on behalf of the principal (Jensen, & Meckling, 1976). The theory also acknowledges that within business organisations, there is the likelihood of the problem of conflict of interest where principals or owners of organisations tend to pursue their own interests and agents or managers of the business tend to satisfy their personal interests too (Schroeder, Greer, & Gaul, 2011).

In Ghana, for instance, it is not uncommon to learn from bank managers, or bank staff in general, that their compensations do not commensurate the efforts they put into the services they render to the banks (PwC, 2018). Consequently, self-interests of managers which might compel them to perpetrate acts such as fund embezzlement and mismanagement may lead to plunging the banks into difficulties. Also, the owners' quest to satisfy their personal interests by using firm's money for their personal stuffs may lead to financial issues (Schroeder et al., 2011). This implies that in a situation where management of a bank is separated from its ownership, the main issue to grapple with when managers and owners are not having their desires met will be conflict of interest. Thus, when both parties use the bank's resources to achieve their self-interests, in the long run, the outcome may be low liquidity, inability to pay creditors leading to financial distress (Schroeder et al., 2011), and eventually plunge the bank into financial crisis.

Credit market theory

This theory postulates that only interest rate is the price mechanism in the credit market, holding constant all other restrictions; as demand for credit increases, with a given number of customers demanding for credit, the interest rate is likely to increase, and the reverse is true (Patnaik, & Vasudevan, 1999). Just as asserted by the loan pricing theory, as the failure risk of the customer increases, the interest premium increases (Ewert, Schenk, & Szczesny, 2000). When borrowers fail to pay their interest installments and loan principal, and considering the time value of money, the banks will have to make provision for the losses and as this provision appreciates against profit, profit eventually dwindles, thereby, affecting financial stability of the banks.

Considering this theory, failure on parts of borrowers to pay back loans and interest installments is what results in nonperforming loans. When nonperforming loans build up on banks' financial statements, banks' liquidity is affected adversely, causing financial pressure on the banks as depositors' demands for cash increase. Eventually, as the pressure continues to mount, banks may be forced to resort to selling off some of their assets to enable them meet depositor cash demands. This lands many banks in bankruptcy and, ultimately, financial crisis.

Corporate governance theory

The modern corporate governance theory was brought forth by Berle and Gardiner (1968). According to this theory, corporate governance guides decision making issues at the board and top management levels of corporations to ensure that decisions align with the objectives of shareholders and the company. Also, corporate governance defines the relationship between shareholders and managers (Tarraf, 2011), and makes a way for a balance between the desires of managers and that of shareholders (Kumar, & Singh, 2013). When corporate governance fails to guard against aggressive risk taking, firms face disastrous financial issues which may lead to a complete shutdown (Tarraf, 2011).

The theory draws on how level of effectiveness of corporate governance influence a firm's survival. This leads to the fact that if corporate governance weakens, decisions not in the interest of the firm and its shareholders are likely to be taken by the managers of the firm; hence, causing losses, especially financial losses, to the firm. Considering this, it is clear that banks may face financial crisis if their corporate governance issues are not handled well. It is likely that if management of commercial banks strictly follows their corporate governance standards, certain risky decisions can be avoided, thereby, saving the banks from financial crisis. On the other hand, failure to follow corporate governance provisions can wreak havoc on banks' survival. This, therefore, leads to drawing of a line between corporate governance and occurrence of financial crisis.

Ghana's Financial Sector

Ghana's financial sector development history in the early periods of Ghana's independence could be associated with all-encompassing government intervention (Bawumia, 2010). By way of accelerating industrialisation, the government of Ghana got involved in all aspects of the economy. Policies and strategies to ensure the industrialisation process were formulated (Abradu-Otoo, & Jagre, 2019). In the 1970's, interest rate and credit ceilings mechanisms were implemented to ensure that low-priced credit was made available to sectors prioritised by the government, such as the manufacturing sector (Acquah-Sam, 2014). Further, banks were heavily taxed and high reserve requirements placed on them. These government-imposed policies caused distortions in the financial sector (Abradu-Otoo, & Jagre). Also, there was high inflation leading real interest rates to run into negative (Yeboah-Mensah, 2015).

The economy, which had enough foreign reserves in 1957, started to experience a constant decrease until it hit the lowest point in 1983 (Amuakwa-Mensah, & Boakye-Adjei, 2015). All other sectors of the economy were also under harsh stress leading the economy into a deep crisis. Per capita gross domestic products growth was around -3% per year during 1970-83; inflation peaked at 123%; savings and investments declined; and international trade saw a deep decline. These led to a crisis in the financial sector (Amuakwa-Mensah, & Boakye-Adjei). Obviously, it could be inferred that financial crises are usually as a result of difficulties faced within the banking sector.

Ghana's financial sector is classified into three major categories: banking, insurance and capital markets (PwC, 2018). Banks seem to dominate the sector, and always seem to have been an area of focus within the sector. The current banking system commenced in the 19th century (Sikasem, 2017). Some of the first banks to have started operations in Ghana include the Post Office Savings Bank, which was operating through the post offices in the country; the British Bank of West Africa, now Standard Chartered Bank; Barclays Bank DCO, now Barclays Bank Ghana Limited (Nyavor, 2018). These banks were subsidiaries of banks incorporated in the United Kingdom to assist in financing trades between Gold Coast and the United Kingdom.

Currently, there are twenty-three (23) commercial or universal banks in the country (BoG, 2020), after the financial sector cleaning exercise by the Central Bank of Ghana. These include: GCB Bank, Agricultural Development Bank, Zenith Bank, Fidelity Bank, Prudential Bank, National Investment Bank, Consolidated Bank of Ghana, Ecobank Ghana Limited, Absa Bank Ghana Limited, Societe Generale Ghana Limited, Guaranty Trust Bank, Universal Merchant Bank, Stanbic Bank, Standard Chartered Bank, Bank of Africa Limited, FBN Bank Limited, CalBank Limited, Access Bank Plc., United Bank for Africa Limited, First Atlantic Bank Limited, First National Bank Ghana/GHL Bank Limited (merged), OmniBSIC Bank Ghana Limited, and Republic Bank Ghana Limited. Aside these banks, there are rural or community banks in the country.

Banks play a lot of roles in the development of every country. They have continued to remain relevant in financing economic activities of countries. Effectiveness and efficiency of banks have positively influenced the stability of financial systems (Aduda, & Kalunda, 2012). Universal banks, invariably referred to as commercial banks, are banks that undertake the operations of regular commercial banks and investment banks combined (Berríos, 2013). Banks do not exist only to accept deposits from customers; they also give credit facilities to clients, thereby, exposing them to risks, such as credit risk, among others. The structure of the financial system in Ghana is as depicted in Figure 1 to provide a clear snapshot of the financial industry in Ghana.

technology. The rapidity of flow of information and the level of accessibility to financial information have placed banks in positions that enable them to assess risk and deploy mitigation measures in time before they suffer the adverse consequences.

Conventionally, bank lending is classified in to overdrafts and loans (Sallah, & Fedhila, 2012). However, Alkhawaja and Görmüş (2019) further classified credit facilities into short term credit, medium-term credit, long-term credit, secured credits, and unsecured credits. It is therefore, incumbent on the banks advancing the credit to act discretionarily. The class of loan or credit advanced by a bank to a borrower will determine how the bank can be saved from the issues of nonperforming loans. In most cases, when borrowers fail to pay the loan principals, the likelihood that the interest installments will not be paid is also high (Sallah, & Fedhila). The various credit facilities are briefly discussed below.

Short-term credit: Short-term credit facilities are advances given to individuals by banks. Usually, these advances are widely used for investment in working capital (Mishkin, & Eakins, 2018). As the name suggests, this loan or advance has a term from three months to one year (Mishkin, & Eakins, 2018). The principal and the interest, if any, are paid back within 12 months.

Medium-term credit: Medium-term credit is the advance given to individuals or companies for a period of time between two years and ten years (Mishkin, & Eakins, 2018). The borrowers of medium-term credit are expected to pay back the principal and the interest thereon within ten years.

Long-term credit: This type of credit is usually advanced to borrowers for a period of at least five years (Berríos, 2013). They normally attract interests, as determined by the lending banks. Mostly, individuals go for this credit for capital investment purposes.

Secured and unsecured credits: All the credit types can either be secured or unsecured. Secured credits are backed by collateral, in that, in case of default on part of the borrower, the assets used as a backup or collateral can be used to set off the debt. On the other hand, unsecured credits are not collateralised.

A number of factors have been cited to have contributed to credit risk. Prominent among them, according to Chancharat and Chancharat (2013) include deficiencies in loan proposal appraisals, low quality process of assessing credit worthiness of borrowers, insufficient lending policies among other factors. If these factors are not expeditiously taken care of by management of banks, they end up having to battle with high nonperforming loans to loans and advances, high loans and advances to total deposits, and provision for loan losses to net loans which epitomise bank credit risk.

Credit risk has been measured variously, using different indicators. Notable among the indicators used as proxies include ratio of nonperforming loans to loans and advances, ratio of high loans and advances to total deposits, and ratio of provision for loan losses to net loans (Nyavor, 2018; Sikasem, 2017). These indicators are computed using items from the financial reports of the banks. However, the ratio of nonperforming loans to total loans and advances is commonly used by authors in measuring credit risk of banks (Bhanot et al., 2014; Nyavor, 2018; Asamoah, & Owusu-Agyei, 2020).

Financial Distress

When firms' core activities in terms of business deteriorate to the extent where they cannot meet their basic financial obligations, the firms are said to have entered the state of financial distress (Shahwan, 2015). This is to say that when banks find it difficult to meet depositors' demands, the banks become distressed financially due the pressure they have to face, and having to dispose of some assets to be able to settle depositors. There are a number of signals that become evident prior to experiencing of financial distress. Prominent among them are the violations of debt covenants and reduction or a total wipe-off of dividends (Baldacci, Gupta, & Mulas-Granados, 2013). According to Claessens and Kose (2013), the point where a firm is said to have entered financial distress is defined as the first year in which cash flows are less than present maturities' long-term obligations.

In like manner, financial stress is termed as the situation when a firm moves towards bankruptcy (Kawor, 2019). Financial distress presents situations such as insolvency, among others. This is due to the fact that, when a firm is in financial distress, their current debt obligations exceed their cash flows making it difficult for them to generate enough funds to pay creditors. Thus, the main factor considered in identifying financial distress is a firm's inability to pay off its contractual debt obligations (Claessens, & Kose, 2013). This means that banks should be hinted of financial distress and potential bankruptcy when they start failing to meet their contractual debt obligations to their clients.

Nevertheless, according to (Claessens, Kose, Laeven, & Valencia, 2013), financial distress signals are not restricted to only the inability of firms to meet their debt obligations. Most of the symptoms occur prior to firms' default, only that the subtlety nature of these symptoms makes it difficult to notice (Claessens et al., 2013). It was argued that firms experience financial distress due to economic distress, poor performance occasioned by low standard management (Crowe, Dell'Ariccia, Igan, & Rabanal, 2013; Sikasem, 2017). Also, Al-Khouri (2011) asserted that financial distress begins with a set of unfavourable economic conditions and expensive blunders committed by poor management.

Financial distress is normally indicated using the Altman (1968) Z-score as a proxy. The Z-scores help to determine corporate defaults, and used as a measure for financial distress status of firms (Dybvig, & Warachka, 2015). The Z-score has also been frequently used as a proxy of the converse of financial distress (Alkhawaja, & Görmüş, 2019; Shahwan, 2015). The implication is that the lower the Z-score value, the higher the likelihood of the firm going into bankruptcy, and the higher the Z-score value, the lower the likelihood that the firm will go into bankruptcy (Shahwan, 2015; Kamel, & Shahwan, 2014). This means the Z-score value indicates a firm's level of financial distress. The Z-score is derived in a number of manners considering the type of firm being focused. The model has been modified overtime to suit privately held firms, publicly held firms, and non-manufacturing firms.

The original model was introduced in 1986 by Professor Edward I. Altman. The first model is stated as follows:

Z-score = $1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$ [1]

Where:

X_1 = working capital to total assets

X_2 = retained earnings to total assets

X_3 = retained earnings before interest and taxes to total assets

X_4 = market value of equity to book value of total debt

X_5 = sales to total assets

The model was later revised in 1983 by Altman by substituting the firm's book value of equity for the market value in X_4. This modified version was specifically appropriate for privately held firms (Kawor, 2019), and it is stated as follows:

Z-score = $0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5$ [2]

Ten years after the first modification, Altman revised the model again by excluding sales to total assets (X_5). The revised model arrived at is more applicable to non-manufacturing firms (Altman, Marco, & Varetto, 1994), and it is stated below.

Z-score = $6.567X_1 + 3.260X_2 + 6.720X_3 + 1.105X_4$ [3]

Per this study, since non-manufacturing firms, banks, are being considered, equation [3] would be appropriate for computing financial distress.

Corporate Governance

Corporate governance has been defined differently by different scholars, making it difficult for one definition to be generally accepted (Shahwan, 2015;

Chen, 2020). However, some definitions have been considered useful, per this study. For instance, according to Chen (2020), corporate governance is defined as a set of practices or rules employed to direct and control a firm. Corporate governance has also been defined as the collection of mechanisms which are used to control and operate corporations (Salah, & Fedhila, 2012), or every device or institution that exercises authority over decision-making within a corporation (Appiah, 2013). Considering these definitions, it can be inferred that corporate governance takes place at the corporate level where general plans and decisions regarding the overall management and operations of the firm are taken.

Corporate governance focuses on balancing the interests of corporate stakeholders, such as the shareholders, customers, suppliers, creditors, auditors, regulators, board of directors, and managers, among others (Heiney, 2010). Corporate governance encompasses all aspects of management, such as internal control mechanisms, performance appraisal as well as corporate disclosure (Lima, & Sanvicente, 2013). Also, corporate governance ensures that issues of conflict of interest are appropriately addressed. Thus, according to the UK Corporate Governance Code 2012, it is purposed to expedite effectual management that can culminate in long-term success of a firm.

Most often than not, success or failure of a firm is partly attributed to its corporate governance. A firm with poor corporate governance is bound to have its primary objectives of being in existence being defeated. On the other hand, firms with good corporate governance have been cited to have chalked successes (Eberechukwu, Okoye, & Adeniyi, 2019). This implies that, for a firm to achieve its key objectives successfully, its corporate governance issues should not be downplayed or taken lightly. Nonetheless, whether corporate governance is good or poor may be dependent on the board of directors or managers of the firm since most of the key decisions rest with the top level management of the firm.

A number of activities inappropriately undertaken by key management of a firm may lead to poor corporate governance, and eventually lands the firm in an unfavourable condition. Some of these activities include management's failure to keep investors informed about happenings in the firm, publication of misleading financial statements, failure on the side of external auditors to detect warning signs, activities of very authoritative members of the firm who lack business ethics, failure of board of directors in restraining powerful and authoritative executives of the firm from engaging in selfish activities, and inadequacy and ineffectiveness of financial controls, among others (Oghojafor, & Adebisi, 2012).

On the other hand, good corporate governance involves desirable activities of a firm's key stakeholders that usually result in the progress and success of the firm. Among these activities, as stated by Osajie (2020), are honest and transparent presentation of all information that spells out clearly the position of the firm, ensuring independence of organisational structures and procedures in order to avert issues of conflict of interest, ensuring that directors account to shareholders, give equal consideration to shareholders, as well as ensuring that conducts and behaviours are in line with written code of ethics and moral standards. These activities if not taken seriously, may result in non-performance, and eventually, a total failure.

Corporate governance is assessed or measured using the corporate governance index (Shahwan, 2015). The index is composed of areas which show the four key mechanisms of corporate governance (Shahwan; Varshney, Kaul, & Vasal, 2012). These areas are as follows:

- Disclosure and transparency;
- Board of directors' characteristics;
- Shareholders' rights and relationship with investors;
- Ownership and control structure.

The corporate governance index was constructed and used in many prior studies (Varshney et al., 2012; Lima, & Sanvicente, 2013; Shahwan, 2015). The index comprises 15 questions stated under the four key mechanisms of corporate governance, as follows:

- Three questions concerning disclosure and transparency;
- Six questions about the various characteristics of the board of directors;
- Two questions on shareholders' rights and investor relations; and finally,
- Four questions devoted to ownership and control structures.

These 15 questions have been answered in prior studies using two main approaches, as well as two different scoring techniques. The first approach involves issuing questionnaires to the third parties to respond to, or answering the questions using data in the firms' annual reports available to the public as well as the firms' websites (Lima, & Sanvicente, 2013; Shahwan, 2015). With regards to the scoring techniques, previous studies used either the weighted index or unweighted index for corporate governance (Shahwan, & Hassan, 2013; Kamel, & Shahwan, 2014). The weighted average technique has been criticised for subjectivity risk as distinct weights are given to different items in the index (Kamel, & Shahwan, 2014).

On the other hand, the unweighted index assigns a score of “1” to each corporate governance question if the answer is “yes” and “0” if the answered otherwise (Samaha, Dahawy, Hussainey, & Stapleton, 2012). The score of corporate governance index for each firm can be stated as follows:

$$CGI_J = \frac{\sum_{i=1}^{n} X_{i,j}}{\sum_{i=1}^{n} M_i} \quad [4]$$

Where:
CGI_j = Corporate Governance Index for each firm;
M_i = maximum possible score awarded to any firm for all the areas or classes (i =1, 2, 3, 4);

$X_{i,j}$ = the actual score ascertained by each firm (Shahwan, 2015; Samaha, et al., 2012).

Financial Crisis

Financial crisis has been defined variously, depending on the sector being considered. According to Stubley et al. (2018), financial crisis is defined as any event in which assets, usually related to institutions within a financial sector, lose a huge part of their nominal value. This is to say that a crisis suffered by institutions, such as the banks, insurance institutions, among other institutions found in the financial sector, can be referred to as a financial crisis. A similar definition was found in the International Monetary Fund’s World Economic

Outlook (2018). Also, the World Economic Outlook (2018) and Stubley et al. (2018) asserted that banking crisis or stock market crisis can also be variously referred to as financial crisis. In essence, crisis affecting any constituent of a financial sector can be referred to as financial crisis, with a specific reference to the constituent under consideration (Stubley et al., 2018; Bhanot et al., 2014).

It should be stated that the bursting of speculative bubble in housing market in the United States was said to be the major cause of the global financial crisis suffered in 2008 (Klomp, & De Haan, 2010). According to Klomp and De Haan, the occurrence of this phenomenon in the United States sparked research interests in many academic researchers who focused their studies on the timing of the event, duration, causes of the crisis, possible effects, and possible solutions to avert future occurrences. Ajakaiye, Fakiyesi and Oyinlola (2010) posit that failure of regulations and failure to adhere to stringent corporate governance principles in the United States led to the crisis. According to Ajakaiye et al, the crisis, though happened in the United States, had overwhelming effects on developing countries. There were declines in export volumes, drastic fall in commodity prices, and drastic fall in foreign capital inflows and remittances.

Also, the financial sector crisis which happened in Russia and Asia in the late 1990's was attributed to a number of factors. Scholars cite causes such as lax financial regulatory conditions, and failure to implement stringent corporate governance guidelines, among others (Winkler, 2010; Guloglu, & İvrendi, 2010). According to Roy and Kemme (2012), most of the financial crises follow a similar causes and consequences pattern. Roy and Kemme assert that banks in

Russia and in the Asia experienced deregulatory measures leading to unexpected rapid credit expansion. These factors in turn led to increasing of asset prices or asset bubbles. Eventually, the financial system found itself in turmoil.

Further, some scholars tried to come out with one-fit-all causes of all financial crises across the globe. Yilmaz (2010) gathers factors responsible for financial crisis under three main headings. First, high consumption expenditure in developed countries financed by developing countries; second, unprecedented level of liquidity in the global financial market beyond the control and management of central banks; finally, inadequate supervisory and oversight roles by the financial sector stakeholders. Also, some studies treat the factors responsible for financial crisis as a homogenous cause; meaning, one variable is significant for all individual financial crises (Klomp, & De Haan, 2010). However, considering the heterogeneity of business environments, factors responsible for financial crisis in one country cannot be said to be entirely responsible for crises in other countries. Therefore, carrying out a research to analyse the causes of financial sector crisis in the African context is crucial.

Financial crisis has always been associated with devastating outcomes. There have been losses of people's investments, businesses, and livelihoods, among others due to financial crisis (Sikasem, 2017). Many countries across the globe have experienced some form of financial crisis which led to either bringing the sector to a halt or leaving lasting effects on the economy at large (Ewert, Schenk, & Szczesny, 2000). For instance, the United States of America experienced a financial crisis between 2007 and 2008. It was termed a global financial crisis (IMF, 2018). This crisis affected not only the United States, as countries which depended on the United States for imports and exports were affected as well (Ichiue, & Shimizu, 2015). This shows how contagious financial crisis can be.

Though financial crises comprise currency crisis, debt crisis, and banking crisis, banking crisis seems to have dominated all the crises hence making banking sector crisis synonymous to financial sector crisis (Brede, & Henn, 2018). This is not to say the financial market also does not experience crisis, but the banking sector seems to have always been in the financial crisis spotlight (IMF, 2018). Banking crises are common; however, these crises seem difficult to understand by many people (Appiah, 2013). Banks, considering the kind of operations they run, are easily exposed to financial issues, and the issues of one bank quickly spread to other individual banks and the industry at large.

Occurrence of banking crisis or financial crisis in general has been attributed to institutional weaknesses (Benson, 2019). Also, banks depend on information, legal and judicial environments to make reasonable investment decisions (Benson). The problem arises when these environments fail the bank. It is difficult to avert all the adverse impacts of the failure of the system in which the bank operates without having been affected in any way. Banks have also been identified with inherent fragility that eventually lands them in crisis (Bawumia, 2010; Amuakwa-Mensah, Boakye-Adjei, 2015).

The United States of America has experienced prevalence of financial crises throughout its history (Mishkin, & Eakins, 2018). For instance, in August

2007, the United States suffered a crisis that was tagged “once-in-a-century credit tsunami” (Mishkin, & Eakins, 2018). This crisis was attributed to many factors. In all the crises suffered by the United States and other countries, there has been the presence of moral hazard and adverse selection, as the issues leading to the main crisis are always considered to have stemmed from with the financial institutions (Mishkin, & Eakins, 2018). In this case, the issue of principal-agent problem always comes to play, as explained by the agency theory (Naceur, & Omran, 2011).

The occurrence of financial crisis goes through a number of stages before becoming a full-blown out uncontainable crisis. Financial crisis, mostly, goes through two or three stages (Mishkin, & Eakins, 2018). However, the impact is really felt at stage two where banking crisis sets in, culminating in a breakdown of the financial system as the banking system seems to be the major holder of the financial system (Reisenbichler, 2020). The first stage or stage one is referred to as the “initial phase”; the second stage or stage two is termed the “banking crisis”, and finally, the third stage or stage three called “debt deflation” (Mishkin, & Eakins, 2018). This means that a system is likely to suffer a full financial crisis at two. The stages are briefly discussed in the succeeding paragraphs, according to the assertions of Mishkin and Eakins (2018).

Stage one, also known as the initial phase, is characterised by credit boom, asset-price boom and bust, and increase in uncertainty. These begin with mismanagement of financial liberalisation and innovation – elimination of financial restriction, introduction of new loans types and financial products.

Eventually, when risk management lacks, credit boom can happen. Also, government policies lead to weakened motivation for risk management; depositors disregard bank risk taking. Consequently, loan losses heighten, assets lose values, and capital reduces, culminating in banks starting to exercise deleveraging. Deleveraging leads to scarcity of loans as banks stop advancing funds to clients in order to address issues of adverse selection and moral hazard, and economic spending contracts.

On the other hand, under the initial phase, financial crisis can also commence with asset-price boom and bust. This happens when asset prices exceed their basic values. However, these prices may not remain high forever; the bubble may burst resulting in a sudden and sharp fall in prices of assets. The values of corporates also fall, as issues of moral hazard heightens. Financial institutions have their assets fall in value resulting in deleveraging. This also causes unavailability of loans to the public which in turn results in reduction in total spending in the economy.

Finally, under the first phase, financial crisis can commence with increase in uncertainty. Times of increased uncertainties can lead to financial crises, such as stock market crashes or failure of key financial institutions. Instances such as the failure of the Ohio Life Insurance and Trust Company in 1857, and the failure of AIG, Bear Sterns, and Lehman Bros in 2008, can be cited. At times of increased uncertainty, it becomes difficult to have access to information; problems of moral hazard and adverse selection increase, leading to reduction in lending and general economic activities.

The second stage, referred to as the phase two, is the banking crisis. This is where issues of statement of financial position balances deteriorate severely leading the financial institutions into insolvency. As the severity of this issue grows, there is the possibility of *bank panic*. Bank panics happen when bank depositors become unsure of which banks are insolvent, making all depositors to rush to withdraw all their funds immediately from the banks. Consequently, bank balances further deteriorates, causing banks or financial institutions to sell off assets quickly to be able to meet the demands of depositors. Moral hazard and adverse selection issues become more severe. Some of the financial institutions may not be able to stand this situation, leading to a collapse. The Ghanaian financial sector faced a situation similar to this, between 2017 and 2019, leading to a financial crisis.

The stage three is characterised by debt deflation. For instance, consider a financial institution with total assets worth GHS100million, total long-term liabilities of GHS90million, and thus net worth of GHS10million in 2016; however, in 2017, prices are expected to fall by 10%, with the value of total assets remaining the same, the value of total liabilities will rise to GHS99million in 2016; hence, leaving the institution with net worth of just GHS1million. This leads to crisis as asset prices remain the same but debt levels increase against assets. Problems of moral hazard and adverse selection increase, followed by reduced lending, which in turn causes economic slowdown or depression for a very long time before recovery. The various stages of financial crisis as discussed are summarised with the factors deemed to have caused crisis in Figure 2.

Also, the index is widely used at the national levels rather than institutional or firm levels (IMF, 2018). This means that at firm level, the dummy variable is appropriate to be used for financial crisis.

Empirical Review

Though it is not uncommon to find studies on financial crisis, it is difficult to find empirical studies which specifically studied financial crisis as a dependent variable to be predicted by other variables (Kristanti, & Herwany, 2017; Winkler, 2010). Often, financial crisis is used as a predictor variable to determine the outcome of other variables. However, due to the various definitions given to financial crisis by different authors, most of the studies were conducted under these definitions (Shahwan, 2015; Appiah, 2013). This empirical review touched on studies related to credit risk, financial distress, corporate governance, and how these influence the occurrence of financial crisis.

Credit risk and odds of financial crisis occurring

A number of studies have been conducted to assess the influence of credit risk on a firm's sustainability and profitability. For instance, using the ratio of non-performing loans (NP) to loans and advances (LA) (NP/LA) as a proxy for credit risk, return on equity (ROE) for profitability, and employing the analysis of covariance model, Poudel (2012) assessed the effect of bank credit risk on profitability. The study considered five (5) commercial banks in the Nepal. The results showed a positive and significant effect of credit risk on bank performance. Poudel concluded that a relative improvement in credit risk management practices might lead to saving of the banks from potential financial distress which could eventually lead to a crisis. The study, though considered credit risk and described the transmission process leading to crisis, it did not specifically consider financial crisis; hence, paucity of studies in this area.

To analyse the effect of credit risk on bank sustainability, Kargi (2011) used ROE and ROA for sustainability, and found sustainability to be negatively related to, and predicted by the ratio of non-performing loans to loans and advances (NP/LA) of financial institutions. The study employed the fixed effect regression analysis. Six (6) financial institutions were involved in the study. It was concluded that as NP/LA increases, banks becomes more unstable, financially. Though this study considered NP/LA in its analysis, there is still space for financial crisis to be considered directly; also, this study used only quantitative method. A mixed method might have produced more insightful results.

Assessing the influence of bank credit risk characteristics and overall banking environment on the performance of 43 universal banks over the period of 1998 – 2008, Al-Khouri (2011) found that credit risk was the major factor that affects banks' finances. The study employed the fixed effect regression, and was quantitative in nature. A similar study conducted in Middle East and North Africa countries using commercial bank data from 1989 – 2005, Naceur and Omran (2011) found a positive and significant impact of credit risk on bank cost efficiency and profitability. On the other hand, Baldacci, Gupta and Mulas-Granados (2013) using similar approaches as above, found bank credit risk to have unwanted effects on bank's profits and safety. Also, Salah and Fedhila

(2012) found that credit risk significantly influences the occurrence of unsound financial performance. All these studies employed a single method, quantitative.

A study was conducted by Larnyoh (2018) to examine the relationship between bank credit risk and financial performance and liquidity in Ghana. The study employed the quantitative method, using the correlational design. Secondary data were used. The findings revealed that many banks got undercapitalised due to high volumes of non-performing loan, and these are the antecedents of financial crises.

Thus far, majority of the prior studies did not specifically study financial crisis as a variable; rather, other variables that are potential triggers of financial crisis have been extensively studied, thereby, leaving gaps in literature as far as a study on the effect of credit risk on financial crisis is concerned. It should also be pointed out that prior findings on the effect of credit risk on financial crisis have been mixed; thus, the present study hypothesised that:

H_0^1: *There is no statistically significant effect of credit risk on the odds of financial crisis occurrence in Ghana.*

Financial distress and odds of financial crisis occurring

Empirical studies on financial distress and financial crisis are scarce. Prior researches only studied financial distress and other concepts thought to have close relationships with financial crisis. This means, to some extent, these prior studies which mentioned financial distress have a close link with financial crisis, considering how close or related the concepts used were to financial crisis. For instance, Ajakaiye, Fakiyesi and Oyinlola (2010) assessed the relationship between financial distress and bankruptcy of banks in Nigeria. The study employed the quantitative method and used the correlational design. Results revealed that financial distress has a significantly positive relationship with bankruptcy. Bankruptcy was also identified to have contributed to folding up of banks. The study concluded that financial distress is responsible for non-performance of financial institutions.

Using similar approaches as Ajakaiye et al. (2010), Winkler (2010) found that financial institutions are forced to wind up activities because they are not able to meet financial demands of their clients or depositors. Failure to meet depositor demands puts financial pressure on the institutions and eventually leads to collapse of the institutions. These studies did not directly assess financial distress and financial crisis. Therefore, this current study assessed the effect of financial distress on financial crisis within the financial sector of Ghana. Moreover, since empirical studies are not common on the relationship between financial distress and the odds of occurrence of financial crisis in Ghana, the researcher hypothesised that:

H_0^2: There is no statistically significant effect of financial distress on the odds of financial crisis occurrence in Ghana.

Corporate governance and odds of financial crisis occurring

Regarding corporate governance, a lot of mentions have been made in reports and news as being one of the predictors of financial crisis (BoG, 2018; Afolabi, 2018). However, only few empirical studies have been conducted to assess the relationship between corporate governance and financial crisis. Some studies found corporate governance to be the key determinant of organisational performance; how well an organisation performs is linked to its corporate governance (Yeoh, & Koronios, 2010; Kwesi, 2018; Banker, 2017). These studies concluded that good corporate governance ensures that shareholders' interests are upheld; thereby, saving firms from conflict of interest which can eventually land the firm in crisis. These studies employed only the quantitative method. This present study used the mixed methods in order to gain more insights into corporate governance and its influence on financial crisis.

To assess how corporate governance contributed to the recent financial crisis, Tarraf and Majeske (2013) summarised a stream of previous studies which explained how failures in corporate governance contributed to the global financial crisis. The main relevance of the paper was to summarise previous studies on 2007-2008 global financial crisis. The outcome showed that corporate governance of firms has a direct influence on financial crisis. This study only reviewed prior research works which studied corporate governance as the main cause of the global financial crisis. This means that the inherent weaknesses of the prior studies had not been catered for as only results were reported. This present study practically studied corporate governance and its effect on financial crisis in Ghana's financial sector.

Using the survival analysis approach by integrating Cox Proportional Hazards regressions, Chancharat and Chancharat (2013) investigated the association between corporate governance and the likelihood of firm survival. The study tracked, longitudinally, 176 financially distressed firms. The results showed that corporate governance is positively associated with the likelihood of firm survival. It was concluded that, for firms to survive the test of time, good corporate governance is a key factor. Chancharat and Chancharat did not specifically focus on the crisis. However, the present study focuses mainly on corporate governance and financial crisis, and hypothesised that:

H_0^3: There is no statistically significant effect of corporate governance on the odds of financial crisis occurrence in Ghana.

Conceptual Framework

Having reviewed theories and empirical studies, taking cognisance of the research hypotheses formulated, the researcher became aware of the effect of credit risk, financial distress, and corporate governance on financial crisis. Credit risk, financial distress, and corporate governance have been identified as predictors of financial crisis. These relationships identified would be tested and studied in this current study. Figure 3 represents the links between the predictor variables, credit risk, financial distress and corporate governance, and the outcome variable, financial crisis.

From Figure 3, the arrow path labelled "H_0^1" represents the predicting effect of credit risk on financial crisis; the ratio of non-performing loan to loans and advances indicates the proxy for credit risk (Al-Khouri, 2011; Naceur, & Omran, 2011; Salah, & Fedhila, 2012). Also, "H_0^2" shows the link between financial distress and financial crisis; the Z-score serves as the proxy for financial distress (Altman, 1994; Shahwan, 2015). Further, the path labelled "H_0^3" displays relationship between corporate governance and financial crisis; disclosure and

corporate governance have been identified to have influence on the occurrence of financial crisis.

Nevertheless, a number of gaps were identified. One, most of the prior related studies did not assess corporate governance as a predictor of financial crisis; few that considered it used only the quantitative method and did not specifically predict financial crisis using the logit model. The current study employed the mixed methods. Second, no study has yet specifically studied the effect of financial distress on the odds of financial crisis occurring. Thirdly, most of the prior studies focused on non-banking institutions within the financial sector; thus, paucity of studies on banks. Fourthly, a study on this topic has not been carried out yet. Fifthly, on a more relaxed note, and to the best of knowledge of the current researcher, no empirical study has been conducted on the current study variables, in the present research locale. Therefore, to help fill these lacunae identified in literature, the present study was needed.

CHAPTER THREE

RESEARCH METHODS

Introduction

The purpose of the study was to analyse the underlying causes of financial crisis in Ghana, using a mixed methods approach to ensure triangulation. Consistent with this, this chapter presents the following: research philosophy, research approach, research design, study area, population of the study, sample size and sampling procedure, data collection instruments, data collection procedure, instrument reliability, instrument validity, data processing and analysis, model specifications, ethical considerations, and chapter summary.

Research Paradigm

The study employed the postpositivist paradigm. Postpositivism, also called postempiricism, is a metatheoretical position that criticises and amends positivism in philosophy and models of scientific inquiry (Mat, 2016). As positivists emphasise independence between the researcher and the researched, postpositivists argue that the researcher's theories, hypotheses, background information and values will impact what is being researched (Taylor, & Lindlof, 2011). This means that, with the postpositivists, objectivity is upheld whilst consequences of biases are also taken into consideration. Whilst positivists and interpretivists consider quantitative method and qualitative method, respectively, postpositivists consider both quantitative and qualitative methods to be the valid approach to conducting a more reliable research (Zammito, 2004).

Considering this study, the use of only quantitative method might not actually show the true picture of the causes of financial crisis in Ghana. The researcher was of the view that the already existing quantitative data (i.e., secondary data extracted from annual reports) would not reflect the entire situation on the grounds, as far as causes of financial crisis in Ghana are concerned. This is because the entire financial system is controlled by humans who are social beings, and as such, it is more appropriate to involve the individuals in the study in order to ascertain their views to support the outcomes of the quantitative approach (Easterby-Smith, Thorpe, & Jackson, 2012).

Also, the researcher is aware of the fact that the choice of research methods is informed by the end to which the study is being carried out (Mat, 2016). Taking this into consideration, the researcher deemed it appropriate to employ this philosophical viewpoint – postpositivist paradigm – as the study sought to draw on both quantitative and qualitative methods to make up for the shortfalls in each of the two methods in order to improve the validity and reliability of the findings of this study (Easterby-Smith et al., 2012). Thus, this study is well situated in this research paradigm.

Further, the researcher has realised that most of the debates among philosophers revolve around the issues of ontology and epistemology; whilst ontology is concerned with realism and experience, epistemology is concerned with the acts of making in-depth enquiries or investigations into the world (Easterby-Smith et al., 2012; Saunders, Lewis, & Thornhill, 2019). These formed the foundation for the unrelenting debate among researchers on how studies should be carried out with emphasis on two main divergent views – positivism and interpretivism (Easterby-Smith et al., 2012; Saunders et al., 2019). The current researcher, joining this debate, found that the position taken by a researcher is actually dependent on the research questions a researcher seeks to answer and the main objective of the entire study.

Drawing from the prior discussions (Saunders et al., 2019; Wilson, 2017), the researcher arrived at a point that either positivist paradigm or interpretivist paradigm could be employed in the study of the causes of financial crisis in Ghana. However, having realised that the positivist viewpoint, which posits that the aim of knowledge is basically to explain or describe the occurrences or phenomena humans experience (Saunders et al., 2019), is focused only on researcher independence, disregarding and making irrelevant all human interests, the researcher deemed it more appropriate to add more strength to this viewpoint by considering the position of the interpretivists as this study sought to analyse responses from human respondents, bank managers, which required the researcher to interact with the researched; hence, consideration of the postpositivist paradigm (Wilson, 2017).

Additionally, the researcher deemed it imperative to explore the idiosyncratic meanings inspiring actions or behaviours of stakeholders of the banking or the financial sectors in order for the researcher to be able to comprehend and appreciate these actions, and how they contribute to the causes of financial crisis in Ghana. This made the researcher resolve that knowledge of reality is a result of social habituation and cannot be appreciated independently of the social involvement in the knowledge development and acquisition process. This means that, to an appreciable extent, the researcher needs involvement in the research context by interacting with researched to enable the researcher make justifiable inferences (Wilson, 2017).

In all, the postpositivist paradigm guided the researcher to maintain a detached position from the study – avoiding preconception and partiality – by relying on secondary sources for data while upholding the views of the players in the financial sector through interactive interviews. This ensured that the strengths of objectivity advanced by positivists and the strengths of subjectivity posited by the interpretivists are harnessed in order to compensate for the inherent weaknesses of each of these paradigms (Wilson, 2017; Saunders et al., 2019).

Research Approach

Considering the foregoing philosophical view-point employed, the mixed research approach, which combines both qualitative and quantitative techniques, was deemed appropriate for the study; thus, the mixed approach was used. Qualitative research approach involves the use of general observation, interviews – as employed in this study – and other forms of qualitative techniques of data collection, and the use of verbal description of data in place of numerical measures used by quantitative approach (Wilson, 2017). The qualitative approach, thus, emphasised description and interpretation, in non-numerical terms, the qualitative data collected on causes of financial crisis from the bank managers of the 23 banks in Ghana. On the other hand, the quantitative aspect used numerical and descriptive techniques to measure the various causes of financial crisis identified in the study objectives, and ensured the application of statistical analyses (Saunders et al., 2019). Apart from being in consonance with the research paradigm employed, which obviously made it the suitable research approach for this study, this approach made it possible for the interview data collected from bank managers, and quantitative data extracted from bank annual reports to be integrated at a point to ensure deep comprehension of the causes of financial crisis in Ghana, through corroboration of outcomes from the two approaches (Creswell, Plano-Clark, Guttman, & Hanson, 2003). This made the choice of the mixed methods approach appropriate for this study.

Research Design

The study employed the sequential explanatory mixed methods design where the quantitative phase precedes the qualitative phase (individual experience) (Creswell, 2013). This design is appropriate when it becomes needful to contextualise quantitative data using qualitative findings in order to enhance comprehension and authenticity of the overall findings of the study, as this study sought to achieve (Creswell et al., 2003). In addition, the qualitative aspect would enhance and enrich the findings of the study, and as well, help in generating new knowledge in the area of causes of financial crisis (Stange, Crabtree, & Miller, 2006). Because this design uses theories and, or hypotheses, the researcher was of the view that to ensure the appropriate assessment of the hypothesised relationships between the causes of financial crisis and financial crisis, this design was a good fit (Cooper, & Schindler, 2006).

Further, the researcher sought to explain the forces that cause the phenomenon of financial crisis to occur, and to enable the production of reliable results and all-encompassing recommendations for the consumption of the Ghanaian banking sector and the financial sector in general, it was just in the right direction to employ a design which incorporates elements from multiple research methods and viewpoints (Saunders et al., 2019). This is to say that the design would ensure triangulation, corroboration, as well as facilitate integration of findings from both the quantitative and qualitative aspects of this study as multiple sources of data (i.e., annual reports, interviews) were engaged.

Study Institutions

The study institutions were the universal banks in Ghana. Ghana's financial system is controlled and regulated by the Central Bank – Bank of Ghana. At the time of this study, there were only 23 universal banks in the country after Bank of Ghana's financial system cleaning exercise aimed at revamping the financial system (BoG, 2018). The exercise was occasioned by a crisis faced by the financial system. The present study focused on universal banks, as most of the issues faced by the system were attributed to the universal banks (BoG, 2018).

Also, universal banks in Ghana are mostly involved in deposit-taking and advancement of loans to clients. Due to this, pressures from depositors to withdraw money from these banks threaten the banks' very existence. Between 2017 and 2019, about nine banks had their licences revoked by the Bank of Ghana. Others were downgraded, as some were merged. These were done so as to contain the happenings within the financial system. Thus, a study considering these institutions was in the right direction.

Population

The population of interest for this study was commercial or universal banks in Ghana. This industry was chosen because it has become an area of focus since the issues of financial crisis that hit Ghana's financial sector between 2017 and 2019 traced its sources to the banking industry and, virtually, all the banks affected were commercial banks (BoG, 2020). The banks within the industry included both private commercial banks and public commercial banks. These banks' operations involve deposit-taking and advancing of loans to individuals, thereby, exposing them to finance related issues than other institutions within the financial industry.

These banks have employees occupying positions, and play key roles in the day to day running of the banks; these positions include: Branch managers, branch operations managers, credit administrators, account opening officers, customer relations officers, electronic banking officers, investment officers, product maintenance officers, risk and compliance officers, and internal auditors. This means that the researcher could depend on employees in any of these positions for information needed for the study. This is because individuals occupying these positions are deemed to have in-depth knowledge in finance and banking operations.

Available official statistics from the Bank of Ghana indicated there were twenty-three (23) commercial or universal banks in Ghana (BoG, 2020). These twenty-three (23) banks made up the population target population for this study. These banks are located across Ghana, in terms of branches. Almost all the banks have their head offices located in the country's capital, Greater Accra. They also have branches in almost all the sixteen (16) administrative regions of Ghana. Due to the crisis experienced by the sector, some of the banks were made to merge to form a single entity, and this contributed to the reduction in the number of commercial banks in Ghana to the present twenty-three (23) commercial banks. See Appendix A for full list of commercial banks.

Sample Size and Sampling Procedure

The sample size used for this study was 22 commercial banks. Banerjee and Chaudhury (2010) referred to a sample as any part of a fully defined population. The sample size of a study is very important as it dictates the level of sampling error which could limit the extent of generalisation as well as conclusions about the population. To arrive at this sample size, the 22 commercial banks, for the quantitative aspect of the study, the criterion sampling technique was employed. For a bank to be included in the sample, a set of criteria must be satisfied. First, the bank must have been duly registered and recognised by the Bank of Ghana. Second, the bank should have published audited annual reports for the periods 2010 to 2019. Finally, the bank should be independent not consolidated. Considering these criteria, 22 banks made it to the sample. See Appendix B for the banks included in the sample.

However, for the qualitative aspect of the study, the purposive and census techniques were used in selecting the sample. Using the purposive and census methods, a key employee – manager – each from the 23 commercial banks was involved in the study, as managers were deemed information-rich compared to other employees of the banks, totaling 23 manager-interviewees. A sample size of twenty-three (23) was enough for a qualitative study, as according to Levitt et al. (2018), a sample size of five (5) to twenty-five (25) for a qualitative study is sufficient. Bell and Morse (2013) on the other hand, suggests a sample size of at least six (6) respondents for a qualitative study.

Table 1: Summary of Sampling Design

Research approach	Sample size	Sampling technique	Unit of analysis	Unit of observation
Quantitative	22 commercial banks	Criterion	Banks	Audited annual reports (2010-2019)
Qualitative	23 manager-interviewees	Purposive and census	Banks	Bank managers

Source: Author's construct (2021)

Data Sources

Data are crucial in carrying out a research. This study used both secondary and primary data for the quantitative and qualitative aspects of the study, respectively. The secondary data were panel data collected from the audited annual reports of the sampled commercial banks. The data spanned a 10-year period, from 2010 – 2019. The audited reports were obtained from the official websites of the banks, and further pieces of information necessary for the study were obtained from the website of the Bank of Ghana.

For the 10-year period data, and considering the number of banks being studied, 220 observations (10*22) were obtained in total. Nevertheless, some of the commercial banks in the sample did not have complete reports on their official websites, thereby, making the researcher visit these banks for the reports. Therefore, some of the data used for the study were sourced directly from the banks. For the qualitative aspect of the study, the primary data were used. These data were cross-sectional in nature, and were solicited from the study participants purposively sampled from the 23 commercial banks.

Data Collection Instruments and Variable Measurements

There are several kinds of data collection tools in existence. The type of tools used depends on the kind of research being carried out (Ebaid, 2011; Liñán, & Chen, 2009). This study used the internet with assistance of computer and interview guide in collecting secondary data and primary data, respectively. The researcher relied and used the internet extensively as a tool to collect data for the variables that required secondary data for analyses. The first step taken by the researcher which informed the consideration of the data collection instrument is by reviewing literature to identify tools that have been employed in prior studies with a similar focus and conducted in similar contexts (Shahwan, 2015; Tarraf, 2013).

Data were extracted from the websites of the 22 commercial banks and the website of the Bank of Ghana. Data for measuring credit risk, financial distress, and corporate governance were obtained from the annual reports of the banks. These annual reports were found on the official websites of most of the commercial banks. Also, the researcher had to collect some of the annual reports in person due to the reason that some of the commercial banks did not have complete reports online. Thus, for the secondary data collection, technological devices were extensively used.

The form of measurements used, which informed the kinds of information extracted from the annual reports, for each study variable was adapted from previous related literature. The measurement, ratio of non-performing loans to loans and advances, and the procedure involved in arriving at it, for credit risk was adapted from Al-Khouri (2011), Naceur and Omran (2011), and Salah and Fedhila (2012). For financial distress, the Altman's (1993) revised Z-score model for non-manufacturing institutions was used to measure it, and the process was adapted from prior studies (Shahwan, 2015). The items used for the computation were working capital to total assets; retained earnings to total assets; earnings before interest and taxes to total assets; and market value of equity to book value of total debts.

Corporate governance was measured using the corporate governance indices developed in previous studies using the four dimensions of corporate governance (Lima, & Sanvicente, 2013; Varshney et al., 2012; Black, Jang, & Kim, 2006). The four dimensions of corporate governance include: Disclosure and transparency; board of directors' characteristics; shareholders' rights and relationship with investors, and ownership and control structure. The dimensions contained three questions, six questions, two questions, and four questions, respectively. In total, 15 questions went into the development of the corporate governance index. The questions were answered with the data available in the banks' annual reports and websites. Each of the index questions earned a score of

"1" if the answer was "yes" and "0" if the answer was "no". The following are the index questions under each corporate governance dimension.

Disclosure and transparency: Does the bank use one of the Big Four international auditing firms? Does the bank disclose the amount of executives' compensation? Does the bank disclose its governance structures and policies?; Board of directors' characteristics: Does the Board have more than 50 per cent external directors (non-executive directors)? Is there a permanent auditing committee? Does the Board contain at least one-third of members as independent members? Are Board committees chaired by independent members? Do Board committees consist of at least three non-executive board members the majority of whom are independent? Does the Board contain female members?; Shareholder rights and investor relations: Is there an institutional investor with at least 5 per cent of the firm's equity? Does the bank exercise the one-share one-vote rule indiscriminately?; Ownership and control structure: Does the bank disclose its ownership structure? Do controlling shareholders hold less than 70 per cent of voting rights? Does the bank have employee stock options? Is there an ownership concentration where at least 5 per cent of the bank's equity ownership is held by an investor?

Further, the dependent variable, financial crisis, was measured using dummy or binary variable as suggested in IMF Working Paper (IMF, 2018) where periods of crisis were denoted "1" and periods without crisis denoted "0". Therefore, the periods "2017-2019" of Ghana's financial crisis were denoted "1" and periods without crisis "2010-2016" were denoted "0". Table 2 presents a summary of the variables, indicators, measurements and data sources.

Table 2: Variables and Measurements

Variables	Indicators	Measurements	Measurement source
Independent	Credit risk	Ratio of nonperforming loans to loans and advances: NPL/LA	Al-Khouri (2011), Naceur and Omran (2011), and Salah and Fedhila (2012)
	Financial distress	Z-score = $6.567X_1 + 3.260X_2 + 6.720X_3 + 1.105X_4$	Altman et al. (1994), Shahwan (2015)
	Corporate governance	Unweighted Corporate governance index: $CGI_J = \frac{\sum_{i=1}^{n} X_{i,j}}{\sum_{i=1}^{n} M_i}$ (Disclosure and transparency, Board of directors' characteristics, Shareholders' right and relationship with investors, Ownership and control structure)	Lima and Sanvicente (2013), Varshney et al. (2012), Black, Jang and Kim (2006)
Dependent	Financial crisis	Binary variable of 1 if financial crisis "2016-2019", and 0 otherwise "2010-2016"	Transformation adopted from IMF working paper – Statistics Department (IMF, 2018)

Source: Author's construct (2021)

In the case of the qualitative aspect of the study, a semi-structured interview guide was used to collect primary qualitative data from managers of the banks. The interview guide contained key questions that could enable the researcher ascertain data on the causes of financial crisis as per the Ghanaian setting. More specifically, the interviewees were asked to express their individual views on what they think are the main underlying causes of financial crisis in Ghana. The interview also included items which helped the researcher to obtain socio-demographic information from the respondents. Socio-demographic information solicited from the respondents include, gender, age, education level, years respondent have been with bank, and marital status.

Reliability of Instruments

With secondary data, scholars proposed a number of ways to follow in order to ensure reliability of the data extraction process and the data extracted. For instance, Samaha et al. (2012) suggested that for reliability of indices or measures constructed from annual reports to be achieved, the firms' annual reports and websites should be read twice; the computing of measures or scoring of indices for each firm should be done or computed twice to ensure that similar measures or scores are obtained both times; finally, discrepancies between the first and second computations for a specific firm should make the firm liable for a third and last assessment. The current researcher followed these approaches to ensure reliability of all measures.

For qualitative data, one main element, trustworthiness, is enough to ensure validity and or reliability. Trustworthiness adapted and upheld by Guba and Lincoln (1994) has been considered the typical basis for assessing validity and reliability of qualitative research. Additionally, many researchers believe that the same principle of validity, reliability and generalisability should be used for qualitative studies (Flintermann, 2014). However, there are some discrepancies with regards to quantitative analyses. For instance, Guba and Lincoln argued four (4) criteria to consider. These are: 1) credibility (truth); 2) dependability (consistency); 3) transferability (applicability), and 4) confirmability (neutrality). These are recognised by qualitative researchers as equally vital elements for assessing the validity and reliability of a qualitative study. This study ensured reliability and validity for the qualitative data through these four criteria.

Credibility requires a researcher to ensure recurring patterns are identified and verified. This was attained by spending a lengthy period of time (averagely, 20minutes as stated earlier) with the bank managers. Cordial relationships were also built in the course of the phone interviews. Dependability (reliability) has to do with the consistency of results by making sure questions were asked the same way for interview respondents to understand and provide the responses accordingly. To make sure the findings of the interview could be generalised, transferability of qualitative data was ensured. This was done by seeking expert understanding to assist in the selecting the participants used for the interviews. The researcher also ensured objectivity to a high extent by asking, dispassionately, all interviewees same set of questions. Table 4 presents a comparison of criteria by research approaches used in the current study.

Table 3: Comparison of Criteria by Research Approach

Criterion	Qualitative Approach	Quantitative Approach
Truth Value	Credibility	Validity
Applicability	Transferability	Generalisation
Consistency	Dependability	Reliability
Neutrality	Conformability	Objectivity

Source: Guba and Lincoln (1994)

Data Collection Procedure

Considering the collection of secondary data, the researcher used internet-enabled computer to visit the official websites of the commercial banks making up the sample size for the study, and the website of the Bank of Ghana, as well as the official website of the Bank for International Settlements. Both quantitative and qualitative data were collected from these websites. For quantitative data, the researcher downloaded audited annual reports for the periods 2010 – 2019 from the websites. The required data were then extracted from these financial statements. The main quantitative data collected from the statements include values for non-performing loans, total loans and advances, total assets, retained earnings, equity, and book value of debts.

The required data extracted from the statements were then used for computations to arrive at the measures for the study variables. Pursuant to the requirements of the Banks and Specialised Deposit-taking Institutions Act 2016 (Act 930), all banks in Ghana are required to publish their full financial statements. Because the financial statements, and the reports used are for public consumption, the researcher did not go through any rigorous and procedural processes to obtain permission before embarking on the data collection exercise. The researcher used about three (3) months, from Friday, 10th July, 2020 to Thursday, 17th September, 2020, to collect these data.

For the collection of primary data, using the interview guide, consent and permission from the banks were sought. An introductory letter introducing the researcher to the banks was obtained from the Department of Finance of the School of Business of University of Cape Coast. First, the researcher reached the banks using the contact information made available on the banks' official websites, and personally visited some of the banks. The introductory letter was used to seek permission from the bank managers of all the twenty-three (23) commercial banks involved in the current study.

However, due to the issues of Covid-19 pandemic, the managers proposed that the interview be conducted over the phone. The managers made their phone numbers available so that the researcher could reach them at the most convenient time. Most of the managers suggested they are contacted after working hours and weekends; hence, most of them were interviewed between the hours of 9:00pm and 10:00pm and at random hours on weekends. Averagely, each interview lasted about 20minutes as, virtually, all the 23 managers had a lot of information to share on the issue of financial crisis. The interviews were recorded using the mobile phone's recorder and later transcribed for analyses. It took the researcher eleven (11) days, from Friday, 27th November, 2020 to Monday, 7th December, 2020, to finish the interview.

Data Processing and Analysis

The study employed both descriptive and inferential statistics in the quantitative data analysis, where means, standard deviations, percentages, frequencies, Chi-square, Pearson product-moment correlation and binary logistic regression were used. The descriptive statistics such as the means, standard deviations, percentages, and frequencies were used to describe the data. Though the use of descriptive statistics may not directly lead to achieving all the research objectives, it is prudent to describe and understand the distribution of the information being used for the analyses (Saunders et al., 2019).

To ascertain the bivariate associations between and, also, to serve as a precursor to the binary logistic regression, the Pearson correlation coefficient was performed. It was to measure the association between the study predictor variables, and has the advantage of giving into just a small standard error (Saunders et al., 2019). The coefficient could take any value between negative one (-1) and positive one (+ 1). A value of (+1) and (-1) represent a perfect positive correlation and a perfect negative correlation, respectively. Correlation is an inferential statistical tool which shows the strength and direction of association between study variables. To ascertain the causality among the study variables, the binary logistic regression and Chi-square test were employed for further analyses.

To analyse the socio-demographic data, frequencies and percentages were used. To achieve and analyse the first, second, and the third objectives and their corresponding hypotheses the Chi-square and the binary logistic regression were used. The binary logistic regression and the Chi-square were used since the dependent variable was dichotomous. Models were developed to examine the predictive effect of credit risk, financial distress and corporate governance on financial crisis. The SPSS version 23 and the Eviews 10 were used for the quantitative data processing and analyses.

Qualitative data were analysed using narratives after transcribing the oral interviews into codes. Data were afterwards processed with the assistance of NVivo version 8 to establish themes. NVivo assisted in the arrangement and comparing of texts together and mapping out relationships in a diagrammatic form. NVivo is one of the Computer Assisted Qualitative Data Analysis Software (CAQDAS) which help a researcher in data management and analysis processes (King, 2004). The NVivo application has been designed for qualitative researchers working with very rich text-based and/or multimedia data, where in-depth levels of analyses on small or large volumes of data are required. The researcher employed this application because it aids researchers in organising qualitative texts into meaningful themes with ease (McNiff, 2016).

Before commencing the main analysis, the recorded interviews were transcribed into MS Word. Afterwards, the transcripts were exported into the NVivo software for analysis. In the transcription process, the researcher was careful not to modify the key words used by the interviewees. This process was carried out right after each interview to avoid paraphrasing in order to maintain the original meanings. Because the interviews were conducted over the phone, gestures and facial expressions were not taken into consideration to support the oral conversations made by the interviewees. The transcribed texts (data) were validated with the recorded version.

The analyses followed a thematic approach. This was preferable because it is flexible and provides detailed information by classifying and analysing data (Braun, & Clarke, 2006). To ascertain the themes, a 5-stage (compiling, disassembling, reassembling, interpreting and concluding) data analyses technique was employed (Braun, & Clarke, 2006). The first stage comprises compiling and sorting, orderly, the field notes. The disassembling stage concerns breaking down the compiled data into smaller constituents which were given codes. At the reassembling phase, the disassembled codes were reorganised and combined into substantive categories. The researcher put together all similar categories into themes. At the interpreting phase, the themes were used to create narratives which followed tables and the tree-map. At the conclusion stage, meanings and implications from the resultant themes pointing out the various causes of financial crisis, as concerned with the Ghanaian context were presented.

To make reference to the process relatively easier, the current researcher, drawing on the foregoing qualitative data analysis process put forth by Braun and Clark (2006), constructed the qualitative data analysis process as shown in Figure 4 below.

Where:

P = Odds of financial crisis occurring

β_0 = Constant or intercept

β_1 = Magnitude of effect on the odds of financial crisis occurring with respect to a unit change in credit risk

β_2 = Magnitude of effect on the odds of financial crisis occurring with respect to a unit change in financial distress

β_3 = Magnitude of effect on the odds of financial crisis occurring with respect to a unit change in corporate governance

e = base of natural log = 2.71828…

The variables in the model are expressed below. The computation approaches for the variables were adopted from prior studies. For instance, following previous studies of scoring indices (Cooke, 1989; Botosan, 1997; Patel, & Dalla, 2002; Kristandl, & Bontis, 2007; Shahwan, & Hassan, 2013; Kamel, & Shahwan, 2014; Shahwan, 2015), the unweighted corporate governance index has been adopted to measure the extent of corporate governance practices by the 22 commercial banks sampled. This scoring scheme was chosen because empirical evidence from prior studies (Wallace, & Naser, 1995; Coombs, & Tayib, 1998; Shahwan, & Hassan, 2013; Shahwan, 2015) shows that there is a close correlation between weighted and unweighted indices; thus, no significant difference is expected between results obtained using either of them. Also, the use of the weighted index may be affected by subjectivity risk (Kamel, & Shahwan, 2014).

Further, the use of z-score to measure financial distress was followed from prior studies (Yi, 2012; Dybvig, & Warachka, 2015) where the modified form of the equation was used to compute the level of financial distress of non-manufacturing firms, such as financial institutions (Shahwan, 2015). For credit, the ratio of nonperforming loans to loans and advances has been commonly used in prior studies to measure it (Bhanot et al., 2014; Nyavor, 2018; Asamoah, & Owusu-Agyei, 2020). Finally, the binary transformation used for financial crisis was adopted from the IMF (2018) which suggested the binary approach to be appropriate when financial crisis is predicted with respect to other factors.

$$\text{Credit risk} = \frac{\text{Nonperforming loans}}{\text{Loans and advances}} \qquad \text{[Eq1a]}$$

$$\text{Financial distress} = \text{Z} - \text{score} = \text{aX}_1 + \text{bX}_2 + \text{cX}_3 + \text{dX}_4 \text{ [Eq1b]}$$

Where:

a, b, c, d = constants; a = 6.567; b = 3.260; c = 6.720; d = 1.105

$X_1 = \frac{\text{Working capital}}{\text{Total assets}}$; where working capital was computed based on net interest margin (investment returns minus investment expenses divided by average earning assets), as banks do not have direct items of current assets and liabilities on their financial statements (Yi, 2012; Dybvig, & Warachka, 2015).

$$X_2 = \frac{\text{Retained earnings}}{\text{Total assets}}$$

$$X_3 = \frac{\text{Retained earnings before interest and taxes}}{\text{Total assets}}$$

$$X_4 = \frac{\text{Market value of equity}}{\text{Book value of total debt}}$$

$$\text{Corporate governance index} = \frac{\sum_{i=1}^{4} X_{i,j}}{\sum_{i=1}^{4} M_i} \qquad \text{[Eq1c]}$$

Where:

M_i = maximum possible score for each bank for all corporate governance dimensions (i =1, 2, 3, 4);

$X_{i,j}$ = the actual score ascertained by each bank.

$$\text{Financial crisis} = (0, 1) \quad \text{[Eq1d]}$$

Where:

0 = no crisis

1= crisis

The model is to determine how much variance is explained on the dichotomous dependent variable, financial crisis, by the independent variables, credit risk, financial distress and corporate governance. The parameter estimates assess the direction, magnitude, and significance of the predictor variables. Per this study, the 'a priori expectation' is that the independent variables, credit risk and financial distress, have negative effects on the dependent variable, financial crisis; except corporate governance which the researcher expects to have a positive effects on the dependent variable, financial crisis. Mathematically, these relationships are denoted as: $\beta_1 > 0$; $\beta_2 > 0$ and $\beta_3 < 0$.

Preliminary Analysis

Prior to the data analysis, the researcher took steps to ensure that data were clean and devoid of possible errors of omission, outliers, and action taken was to assess whether data collected fitted well with the model specified, and statistical assumptions were met. These, according to Sarstedt, Bengart, Shaltoni and Lehmann (2018), are important issues that need to be addressed. As asserted by Aguinis, Gottfredson and Joo (2013), outliers are scores very different from the rest of scores in a data set. Aguinis et al. (2013) place more emphasis on the importance of managing outliers than issues of normality in a study. The current study did not spot any outliers in the data set; thus, no cases were isolated from the sample, maintaining the total observations at 220.

To assess the presence or otherwise of outliers in the data set, the p-value of the right-tail of the Chi-square distribution was computed, based on the Mahalanobis distance. A p-value of less than 0.0001 indicates presence of multivariate outliers (Statistical Solutions, 2020). The results showed p-values ranging from a minimum of 0.0053 to a maximum of 1.0000, indicating absence of outliers from the cases. Therefore, all the cases under each predictor variable included in the study fell within the acceptable parameters required for the model employed.

The critical phase in preparing and evaluating the data is concerned with testing for the assumptions underlying the statistical model employed. Unlike linear regression and general linear models that are based on ordinary least squares parameters concerning linearity, normality, homoscedasticity and measurement levels among others, logistic regressions do not make use of many of these assumptions (Aguinis et al., 2013). However, other assumptions apply. For instance, binary logistic regressions require that the dependent variable be binary; an assumption the present study has satisfied. Also, observations are not supposed to come from matched data, and the study has satisfied this too. Though the logistic model does not require independent and dependent variables to relate linearly, the independent variables are assumed to relate linearly with the log odds.

Also, as posited by Dehnel (2014), the sample size should be enough for a good analysis, and to ensure validity. Each independent variable should have at least 10 observations, according to Dehnel. The current study considered a total observation of 220 which is way sufficient for the production of valid and reliable statistical results. Finally, binary logistic regression requires slight to no multicollinearity among independent variables. This means the independent variables should not be very highly correlated with one another (Tabachnick, & Fidell, 2012). Multicollinearity, also referred to as collinearity in other literatures, is statistical phenomenon which causes untrustworthiness of estimates and makes difficult to evaluate the individual relevance of independent variables (Aguinis et al., 2013). Thus, to test for multicollinearity or collinearity, the correlation matrix and Variance Inflation Factor (VIF) were computed.

Using the correlation matrix, the lesser the coefficient values between independent variables are than 1.0, the more the issues of collinearity or multicollinearity are avoided. According to Tabachnick and Fidell (2012), a correlation coefficient of less than 0.9 is acceptable to say there is no collinearity between independent variables. Thus, from the analysis as shown in Table 4, there was no collinearity associated with the variables. Also, VIF values were inversely associated with the Tolerance values (Tolerance = 1/VIF). According to Pallant (2020), very high values of VIF resulting in, mathematically, very low values of Tolerance signify high degree of collinearity or multicollinearity among independent variables (threshold is normally pegged at VIF of 10.0 which corresponds to Tolerance of 0.10). The values in Table 4 show that this threshold was met and issues of multicollinearity were absent.

Table 4: Correlation Coefficients

Variable	VIF	Tolerance	CR	FD	CG
CR	1.004	.996	1		
FD	1.004	.996	.057	1	
CG	1.001	.999	.020	-.021	1

Source: Field data (2021)
CR = Credit Risk; FD = Financial Distress; CG = Corporate Governance; VIF = Variance Inflation

From Table 4, it is clear that issues of multicollinearity and its associated threats are nonexistent in the study data. This can be seen in the Variance Inflation values, for the study variables, which are below the threshold ten (<10), and the Tolerance values which are higher than 0.10 (> 0.10) for all the study variables. The Tolerance value and VIF value for credit risk are 0.996 and 1.004 respectively; Tolerance and VIF for financial distress are 0.996 and 1.004, respectively; and finally, the Tolerance and VIF values of corporate governance are 0.999 and 1.001, respectively. These, therefore, allow for binary logistic regression to be conducted (Aguinis et al., 2013; Tabachnick, & Fidell, 2012).

Finally, considering the dichotomous or categorical nature of the dependent variable, the researcher conducted Hosmer-Lemeshow based on the Chi-square test to test how good the logistic regression model is or to test goodness of fit of the model as Hosmer-Lemeshow test has been widely accepted, reliable and used as goodness of fit test for logistic regression (Tabachnick, & Fidell, 2012; Hosmer, Lemeshow, & Sturdivant, 2013). A pseudo-R square, such as the Nagelkerke R square was also computed. These were used because there were no corollary to explain variance in logistic regression using the R-square (Tabachnick, & Fidell). The results were as presented in Table 5.

Table 5: Test of Goodness of Fit of Model

			Chi-square	Sig.
Omnibus tests of model coefficients	Step 1	Step	30.228	.000
		Block	30.228	.000
		Model	30.228	.000
Model summary	Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
	1	250.770	0.123	0.175
Hosmer and Lemeshow test	Step	Chi-square	df	Sig.
	1	16.527	8	0.335

Source: Field data (2021) Significant at $p < .0001$

From Table 5, since the Hosmer-Lemeshow test has been considered most trustworthy when it comes to testing model fit for binary logistic regression (Glen, 2019; Hosmer et al., 2013), the researcher focused on it though the results as shown in the Table showed other fitness test to be significant. Considering the results, the Hosmer-Lemeshow test produced a chi-square of 16.527 and p-value of 0.335 (> .05) which is greater than the researcher's choice of alpha, indicating that, to a large extent, the model fits well to the data. This shows there is no vast difference between observed values and expected values; hence, failure to reject the null hypothesis that "*There is no significant difference between observed outcomes and expected outcomes*", as the higher the p-value, the better the model fits the data (Glen, 2019).

Also, the omnibus test of coefficients was to check whether the new model which included the explanatory variables was an improvement over the baseline model. To test this, the chi-square test was used to determine if there was a significant difference between the Log-likelihoods, especially the -2Log-likelihoods, of the baseline model and the new model. If the new model has a significantly reduced -2Log-likelihoods matched to the baseline model, it indicates the new model explains more of the variance in the outcome, and it means an improvement. From the Table 7, the chi-square is highly significant (Chi-square = 30.228, $p < .0001$). This shows the model is significantly better.

Finally, the model summary shows the -2Log-likelihoods and the R-square values for the full model. The R-square values indicate, roughly, how much variation in the outcome variable is explained by the model. Due to the vast difference that usually occurs between the two versions, Cox & Snell R square and Nagelkerke R square, and the fact that these values should not be overly focused, scholars usually suggest the use of the Nagelkerke R square (Tabachnick, & Fidell, 2012; Strand, Cadwallader, & Firth, 2011). The analysis shows that the model explains about (17.5%) of the variance in the outcome. This is a good fit as according to Statistical Solutions (2020) a value greater than (0%) but less than (100%) is considered good as very low values and very high values can be a sign of existence of statistical problem.

Ethical Considerations

Ethics is crucial in research; hence, every researcher is to adhere to ethics of research. First, each bank manager was fully informed about all aspects of the study and was given the chance to ask any question they had prior to agreeing to participate in the study. Also, they were made to understand that participation was voluntary and they had the right to withdraw from participating in the study without any consequences and if they decide to stop somewhere along the line, they would not be marginalised in any form. The interview was carried out in a way devoid of strong or abusive words or language. The manager interviewees were assured of confidentiality, and that their responses would be used for academic purposes only. Also, internet protocols were observed in the course of the online data extraction from the websites of the commercial banks and Bank of Ghana.

Chapter Summary

The chapter presented the research methods of the study. Postpositivism philosophical view supported the study. The mixed method (quantitative and qualitative) was employed with their related strategies, study area, population, sample size and sampling techniques, instrumentation, validity, reliability, data collection procedures, data processing and analysis, model specifications, and ethical considerations were presented in this chapter. The researcher used the sequential-explanatory mixed methods design in order to ensure triangulation, considering the paucity of literature on the concepts under this research. Preliminary analyses were also conducted to make sure data were devoid of outliers and issues of missing data. The analyses also ensured that all assumptions underpinning binary logistic regression models, such as predictors being free from multicollinearity, were met.

However, the researcher encountered some limitations. Due to the Covid-19 pandemic, the interview process was not as smooth as expected by the researcher. Interviewees needed to practise social-distancing as much as possible.

This led to the conduction of all interviews on the phone which denied the researcher the opportunity to take notice of gestures and facial expressions of the interviewees and how these could influence the data. Also, the process was costly as the researcher had to purchase airtime for the phone calls and for the online data extractions. Nevertheless, the researcher tried and financed all the activities and processes involved in obtaining valid and reliable data.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The purpose of this study was to analyse the underlying causes of financial crisis in Ghana, using a mixed methods approach to ensure triangulation; based on this purpose, this chapter presents the results and discussion of the study. The chapter presents demographic information of interview respondents, descriptive statistics, correlation coefficients, effect of credit risk on the odds of financial crisis occurring, effect of financial distress on the odds of financial crisis occurring, effect of corporate governance on the odds of financial crisis occurring; summary of hypotheses tested, results and conclusions; and qualitative findings, which present results and discussion of the qualitative analysis, as well as the chapter summary.

Demographic Information of Interview Respondents

This section of the data collection instrument, the semi-structured interview guide, covered the respondents' gender, age; highest level of education completed by the respondents; working experience of the respondents; the department a respondent was working at the time of the data collection, and the position occupied by the respondents at the time of the data collection for the study. Though not central to the core focus of the study, the demographic information helps contextualise findings of a study and, also contributes to formulation of appropriate recommendations.

Table 6: Demographic Information of Respondents

Variables	Responses	Frequency	Percent

Gender	Male	12	52.17
	Female	11	47.83
Age	31-40years	7	30.43
	41-50years	11	47.83
	51-59years	5	28.6
Qualification	Bachelor Degree	16	69.57
	Postgraduate	7	30.43
How long manager has been with bank	1-5years	13	56.52
	6-10years	10	43.48
Marital status	Married	7	30.43
	Single	16	69.57

Source: Field Survey (2020) N = 23

Table 6 shows the gender distribution of the bank managers involved in the interviews for the qualitative study. From the Table, 12 (52.17%) of the managers interviewed were males whilst 11 (47.83%) were females. This implies that both male and the female sex were fairly represented; though males were one more than their female counterparts, this difference was not significant. Also, most of the managers were between the ages of 41 years and 50years, representing (47.83%) of the total respondents; seven (7) of them, representing (30.43%), were between the ages of 31years and 40years while five (5) of the managers, representing (28.6%), were between the ages of 51 years and 59 years.

With regards to educational qualification, the minimum qualification the managers possessed was Bachelor's degree. From the Table 8, sixteen (16), representing (69.57%) of the 23 managers interviewed, had Bachelor's degrees, as the remaining seven (7), representing (30.43%), held postgraduate degrees. Also, majority (13, 56.52%) of these managers had worked with their respective banks for a minimum of one (1) year and a maximum of five (5); nevertheless, the remaining ten (10) had been with their respective banks for at least six (6) years and at most ten (10) years. Interestingly, none of the managers was said to have worked with his or her bank for less than one year or more than ten years. Martially, majority (16, 69.57%) of the managers were not married – they were single. On the other hand, seven (7), representing (30.43%), were married, as displayed in Table 6.

Descriptive Statistics

Before considering the main study objectives, the researcher deemed it necessary to carry out an analysis to present description of the study data. This enabled a simple exploratory of the study variables, financial crisis, credit risk, financial distress, and corporate governance. The descriptive statistics performed were as shown in Table 7.

Table 7: Descriptive Statistics of Study Variables

Variables	Mean	SD	Min.	Max.	Skewness	Kurtosis
Credit Risk	0.0477	0.0317	0.0000	0.3335	3.8950	29.3500
Financial Distress	5.7943	0.8110	3.7467	7.9161	-1.0290	0.3740
Corporate Governance	0.6802	0.0736	0.5141	0.9333	1.2020	1.4700
Financial Crisis	0.3000	0.4593	0.0000	1.0000	0.8790	-1.2390

Obs. = 220; SD = Standard Deviation
Source: Field Data (2021)

As shown in Table 7, the average value (*Mean* = 0.0477; *SD* = 0.0317) for credit risk of the banks involved in the study was closer to the minimum credit risk of (*Min*. = 0.0000) than the maximum risk of (*Max.* = 0.3335). This, in general, indicates that the level of credit risk in the financial sector is not that alarming. This shows non-performing loans were way below the total loans given and advances made to the bank clients within the periods under consideration. This is to say that majority of the borrowers were able to honour their loan obligations to the banks.

The results also indicated a good mean value of financial distress for the sector (*Mean* = 5.7943; *SD* = 0.8110). Financial distress values, having been computed using the Z-score, values greater than 2.60 is a good indicator of a healthy firm (Altman, 1993; Shahwan, 2015). This shows that, on the average, the banks in the sector, per their annual reports, projected a good standing, financially. Meaning, considering the figures on the surface of the financial statements, on the average, there was no obvious indication that bankruptcy was imminent.

Further, for corporate governance, average value of (*Mean* = 0.6802; *SD* = 0.0736) was produced. The minimum and the maximum were (*Min.* = 0.5141) and (*Max.* = 0.9333), respectively. Computed using unweighted index, the maximum a bank could score was one (1). Thus, considering the mean value and even the minimum value, there is an indication that, corporate governance-wise, the banks in the financial sector were, to a large extent, practising good corporate governance. The closer the computed values are to one, the better the practices of the banks, as far as corporate governance is concerned.

Finally, Table 8 showed distribution of values for financial crisis. This variable, the outcome variable of the study, is binary, where the maximum value that could occur was (*Max.* = 1.0000) indicating occurrence of financial crisis whilst the minimum that could occur was (*Min.* = 0.0000) indicating otherwise or non-occurrence of financial crisis. Thus, considering the mean score (*Mean* = 0.3000; *SD* = 0.4593), there was less likelihood for the occurrence of financial crisis as the mean score tilted more towards zero than one. As all the predictor variables showed favourable average values, it is, thus, not surprising crisis was less likely to occur.

Correlation Coefficients

This section sought to assess the associations among the predictor variables, credit risk, financial distress and corporate governance. This is to find out how these variables relate to one another. To achieve this purpose, the Pearson correlation coefficient was used. Basically, this is a preliminary step to binary logistic regression (Sullivan, 2013). The main reason for this analysis is to ensure that the predictor variables are independent of one another and, thus, predict the outcome variable, financial crisis, independently. The results were as shown in Table 8.

Table 8: Correlation Matrix

Variables		Credit Risk	Financial Distress	Corporate Governance
Credit Risk	r	1	0.0570	0.0200
	p		0.3860	0.7640
Financial Distress	r	0.0570	1	-0.0210
	p	0.3860		0.7530
Corporate	r	0.0200	-0.0210	1
Governance	p	0.7640	0.7530	

Obs. = 220
Source: Field Data (2021)

The results in Table 8 showed that there is a very weak positive relationship between credit risk and financial distress (r = 0.0570, p > 0.05); however, this relationship is insignificant, indicating that credit risk and financial distress are independent of each other. Also, the association between credit risk and corporate governance has been found to be positively weak and statistically insignificant (r = 0.0200, p > 0.05), showing that both variables predict financial crisis independently. Finally, the results showed a very weak negative relationship between corporate governance and financial distress (r = -0.0210, p > 0.05); nevertheless, the relationship is not significant.

From the results above, it could be concluded that the predictor variables are independent of one another. Meaning none of these variables has significant influence on the other. Thus, issues of multicollinearity can be said of being absent among the predictor variables. This makes it appropriate for the conduction of further analysis such as binary logistic regression (Aguinis et al., 2013, 2013; Tabachnick, & Fidell, 2012). Also, it can be concluded that credit risk, financial distress and corporate governance, in statistics term, cannot represent one another in predicting the outcome variable, financial crisis.

Credit Risk, Financial Distress, Corporate Governance and Financial Crisis

The research objective sought to assess the effects of credit risk, financial distress and corporate governance on the odds of financial crisis occurring in Ghana. The objective was basically purported to determine whether credit risk, financial distress and corporate governance predict financial crisis. To achieve this, the researcher conducted the binary logistic regression. The results are displayed in Table 9, and discussions done according to the individual effects of credit risk, financial distress and corporate governance on the odds of financial crisis occurring.

Table 9: Binary Logistic Regression

		Logit (B)	S.E	Wald	Sig.	e^B	95% CI for e^B	
							Lower	Upper
Variable	Credit risk	-22.528	7.257	9.635	0.002	0.000	0.000	0.000
	Financial distress	0.624	0.216	8.374	0.004	1.866	1.223	2.848
	Corporate governance	-6.232	2.541	6.015	0.014	.002	0.000	0.286
	Constant	-0.847	0.144	34.675	0.000	0.429		
Model summary	-2 Log likelihood			250.770				
	Cox & Snell R Square			0.523				
	Nagelkerke R Square			0.675				
Classification				0.700				
The cut value is 0.500								
Outcome variable: Financial crisis								

Obs = 220; DF = 1
Source: Field Data (2021)

As presented in Table 11, the logistic regression was performed to ascertain the effects of credit risk, financial distress and corporate governance on the likelihood that financial crisis would occur. The logistic regression model was statistically significant across all the predictor variables, as all the p-values were less than 0.05, with considerably high Wald statistics. Also, the model explained (52.3%) to (67.5%) of the variation in the occurrence of financial crisis. However, due to the fact that Cox and Snell R Square cannot equal one, the usual approach is to use Nagelkerke R Square for the coefficient of determination (Lund, & Lund, 2018). Hence, the variance in financial crisis reliably explained by the model was (67.5%), using the Nagelkerke R Square, and correctly classified (70%) of the cases. This implies that credit risk, financial distress and corporate governance explain about (68%) of variation in the likelihood of financial crisis occurring in Ghana. The remaining (32%) could be said to have been explained by factors other than credit risk, financial distress and corporate governance. The individual effects are discussed below.

Credit risk and financial crisis

From Table 9, the odds ratio ($e^B < 1$) was less than one, indicating a negative relationship between credit risk and odds of occurrence of financial crisis. This negative relationship was confirmed by the logit coefficient (B = -22.528) as well as the confidence intervals which were both less than one (*Lower CI* < 1, *Upper CI* < 1). This relationship showed that financial crisis was less likely to occur. More specifically, this means that for every unit of credit risk, the odds of financial crisis occurring decrease by a factor of $2.718^{-22.528}$ (approximately, 1.65^{-10} or 0.000 as shown in Table 11), holding all other factors constant. In other words, the odds of financial crisis occurring are 1.053^{-10} times lower than the odds of non-occurrence of financial crisis.

From the analysis, the results showed that credit risk had a significant effect on odds of financial crisis occurring. However, and rather surprisingly, increase in credit risk was found to have caused a decrease in the odds of financial crisis occurring. This, in a more direct sense, means increase in credit risk does not translate into the likelihood of financial crisis occurring. On the other hand, a decrease in credit risk rather causes increase in the odds of financial crisis occurring. This could be that high or increased credit risk does not necessarily mean that non-performing loans remain non-performing till the banks write them off. It could be that, eventually, these loans, both the principal and interests, are paid back to the banks. Banks being paid interests by clients only go a long way to put the banks in a good standing, financially; hence, saving the banks from issues of banking panic and eventual crisis.

Also, in a typical banking business, the higher the loan value, the higher the interest amount to be paid by the borrower to the bank. This means that, in the short-run, high loan values, recorded in banks' financial statements, which may seem non-performing may not really end up becoming costs to the banks as the borrowers may, eventually, pay them off; hence, reducing credit risk. However, since banks make most of their profits from loans given to clients and other short-term investments, advancing loan amounts whose values will not yield enough interest income to the banks will only lead to dwindling profits which may adversely affect the banks' solvency. Though this may result in decreased credit risk, as the results have shown, the odds of financial crisis occurring will increase because of the possible fall in profits, due to the low loan amounts given to clients, which may likely affect banks' solvency negatively.

This finding is consistent with the Kargi (2011). Kargi averred that non-performing loans to loans and advances (measure of credit risk in current study) has a significant negative effect on the sustainability of financial institutions. Kargi's findings, expanded, showed that increased in credit risk does not result in an increase in the odds of financial crisis occurring within a financial sector. The current finding is, however, inconsistent with Mishkin and Eakins (2018) who found that credit risk has a significant positive effect on profitability which in turn influences the occurrence of financial crisis. According to Mishkin and Eakins, an increase in credit risk can lead to financial distress which may eventually lead to a crisis in the American financial system. Nevertheless, the current finding is of the opposing view, considering the Ghanaian system.

Also, Al-Khouri (2011) affirmed that credit risk is the main factor that affects banks' finances. This assertion makes it clear that credit risk may either have a positive or negative effect on the odds of financial crisis occurring. The current finding then fits into the negative effect aspect of Al-Khouri's finding. Just as explained above, this aspect of Al-Khouri's findings suggested that an increase in credit risk of banks leads to a decrease in the likelihood of financial crisis occurring. Naceur and Omran (2011) found a positive effect of credit risk on cost efficiency and profitability. This is to say that as credit risk increases, cost efficiency and profitability increases; thereby, decreasing the odds of occurrence of financial crisis. Therefore, Naceur and Omran's finding corroborates with the finding of the current study, to some extent, though their study was conducted in the Middle East and North Africa countries.

Further, it is possible that credit risk may not in itself directly induce the occurrence of financial crisis; rather, its influence on other factors may cause the occurrence or nonoccurrence of financial crisis. This is affirmed by Paola (2011), who found an unwanted effect of credit risk on bank's profit and safety which then serve as the basis for the occurrence of financial issues among banks. This assertion is supported by Salah and Fedhila (2012) who found that unsound financial performance, as a result of credit risk, influences the occurrence of financial crisis in the long run.

In some situations, financial performance and liquidity are underrated by the incidence of credit risk. Thus, poor performance and continued liquidity issues occasioned by credit risk are likely to induce the occurrence of financial crisis. This assertion is in line with the findings of a study conducted in Ghana by Larnyoh (2018). He found that non-performing loans, which are a major aspect of credit risk computation, serve as the basis for the occurrence of financial crisis in Ghana. This is to say that increase in credit risk is associated with an increase in the odds of financial crisis occurring. His finding, however, is inconsistent with the finding of the current study.

Furthermore, the current finding shows inconsistency with Patnaik and Vasudevan's (1999) credit market theory which proposes an inverse relationship between credit risk and firm stability and profitability which contribute to an increase in the odds of financial crisis occurring. The difference in the position or assertion of the theory and the current finding may be due to factors related to location, the kind of financial institutions considered in previous studies, and the sample sizes used. The researcher also realised that in the Ghanaian financial system, though expected to meet international standards, the individual banks seem to have their own internal policies, and all these might have influenced the current study outcome.

In summary, the results revealed that, despite the evidence that credit risk as a predictor of financial crisis has a direct effect on the odds of financial crisis occurring as asserted by a number of previous studies, the elements of the current study showed that credit risk has an inverse effect on the odds of financial crisis occurring. As credit risk increases, the odds of financial crisis occurring decrease, and the reverse holds true. The current finding is consistent with the findings of many prior studies. In similar manner, the finding does not correlate with the findings of other previous studies. Nevertheless, generically, credit risk has been found to have a significant effect on the odds of occurrence of financial crisis.

Financial distress and financial crisis

From Table 9, the odds ratio ($e^B > 1$) was greater than one, indicating a positive relationship between financial distress and financial crisis. This positive relationship was confirmed by the logit coefficient ($B = 0.624$) as well as the confidence intervals which were both greater than one (*Lower CI* > 1, *Upper CI* > 1). This relationship showed that financial crisis was more likely to occur. Specifically, this means that, holding all other factors constant, for every unit of financial distress, the odds of financial crisis occurring increase by a factor of 1.866. In other words, the odds of financial crisis occurring are 1.866 times higher than the odds of non-occurrence of financial crisis, with a (95%) confidence intervals of 1.223 to 2.848.

From the results, it has been shown that financial distress has a significant effect on odds of financial crisis occurring. Just as expected by the researcher, an increase in financial distress was found to have caused an increase in the odds of financial crisis occurring. In other words, an increase in financial distress translates into the likelihood of financial crisis occurring. On the other hand, a decrease in financial distress causes an increase in the odds of financial crisis occurring. This finding is possible because banks facing financial distress are likely to experience financial issues which could lead to disposing of some tangible assets and others in order to meet financial obligation to the bank clients. Consequently, the banks may lose the ability to carry on its primary operations due to liquidity and solvency issues. Eventually, the possibility of financial crisis occurring increases as bank financial distress deepens.

Also, as the main businesses of the banks involve giving loans to individuals, groups and organisations, as well as other investment activities, the banks are exposed to issues of defaults on the part of the borrowers, as well as the investment partners. This is not surprising because many are the borrowers who fail to pay their interest installments to the banks. As this persists, the financial status of the banks is adversely affected. This happens because irrespective of the fact that borrowers default on paying their interest installments and loan principal to the banks, depositors may still be visiting these banks withdraw part of their deposits or even everything. As the number of depositors withdrawing their cash from the banks increases, the banks' financial positions are negatively affected as the banks may have to withdraw some capital investments in order to pay depositors. Profitability and sustainability are then affected, culminating in crisis.

This finding is consistent with the findings of Ajakaiye, Fakiyesi and Oyinlola (2010) who found a significant positive relationship between financial distress and bankruptcy leading to financial crisis. According to Ajakaiye, Fakiyesi and Oyinlola, bankruptcy occasioned by financial distress is one of the main contributory factors that cause non-performance of financial institutions, in general, and folding up of banks' operations. If these continue without the banks benefitting from any external assistance to revamp their activities and operations, the likelihood of a full-fledged financial crisis is bound to occur.

Also, the current finding correlates with Winkler (2010). Winkler asserted that financial institutions are forced to wind up activities because they are unable to meet financial demands of depositors. He went ahead to explain that failure to meet financial demands of depositors puts pressure on the banks. This, eventually, leads to the collapse of the banks. Just as the current researcher explained earlier that unexpected increase in depositors' financial demands lead to financial distress which subsequently causes financial crisis, Winkler's assertions seem to support this position as well.

Further, the finding is in line with Altman's (1968) model which posited that increase in financial distress causes bankruptcy and, subsequently, financial crisis. Thus, as issues of financial distress escalate, the likelihood that financial crisis will result increases. This is not surprising as, according to existing literature, financial distress has been usually cited to have contributed to the failure of many banks (Dyvig, & Warachka, 2015; Alkhawaja, & Görmüş, 2019; Shahwan, 2015; Kamel, & Shahwan, 2014). This is to say that the current finding only came to support and strengthen the findings of prior studies.

Additionally, this finding can also be linked to the manner in which banks operate in Ghana. How some of the banks in Ghana deal with their clients who have deposited money at the banks is not to the standard that might have been expected by many people. Communication has, in many cases, been poor between banks and depositors causing depositors to panic at the slightest hitches in the financial system. The depositors are then forced to listen to rumors and act on them accordingly. When this happens, and for the fear of losing savings, depositors tend to rush to the banks to withdraw their deposits; this puts pressure on the banks as they are unlikely to meet the sudden high demands of all depositors. Banks are then forced to sell off noncurrent assets, other investments, and also increase their borrowings in order to settle their clients. Eventually, this distress places the banks in unfavourable financial standings leading to crisis.

In a nutshell, the results showed that financial distress is a significant predictor of the occurrence of financial crisis. Though the current study specifically considered the Ghanaian context, the finding, as far as financial distress as a predictor of financial crisis is concerned, has been consistent with many prior studies conducted outside the current study locale. A number of factors which were considered to have influenced banks in Ghana, making them suffer financial distress leading to the issues of financial crisis, are the business environment of the banks, communication hitches, depositors' financial demands, among others.

Corporate governance and financial crisis

As displayed in Table 9, the odds ratio (e^B < 1) was less than one, indicating a negative relationship between corporate governance and financial crisis. This negative relationship was confirmed by the logit coefficient (*B* = -6.232) as well as the confidence intervals which were both less than one (*Lower CI* < 1, *Upper CI* < 1). This relationship showed that financial crisis was less likely to occur. More specifically, this means that for every unit of improvement in corporate governance, the odds of financial crisis occurring decrease by a factor of 0.002, holding all other factors constant. In other words, the odds of financial crisis occurring are 0.002 times lower than the odds of non-occurrence of financial crisis, with a (95%) confidence intervals of 0.000 to 0.286.

The results showed that corporate governance has a significant effect on odds of financial crisis occurring. The results showed that an increase in corporate governance decreases the odds of financial crisis occurring. This is to say that when banks improve their corporate governance, the likelihood of financial crisis occurring decreases. On the other hand, bad corporate governance increases the odds of financial crisis occurring. This result just confirmed how important corporate governance is to the sustainability and continuous existence of organisations. Corporate governance ensures that the right machinations are put in place for the successful running of a business. This simply implies that when corporate governance fails, the entire business entity is likely to fail too.

In the banking industry, corporate governance activities are carried out by the board of directors and management of the banks. Decisions and indecisions of the board and management influence the operations and the very existence of the banks. Decisions and activities of directors and managers may either influence the operations of the banks negatively or positively. Directors and managers are responsible for making sure that the financial statements of their respective banks are prepared with all fairness and utmost accuracy. Meaning, anything short of this can land the bank in crisis.

For instance, if managers or directors connive to use the banks' resources for their personal interests without the knowledge of the owners, the possibility of the bank collapsing increases as this constitutes bad corporate governance. On the other hand, directors and managers who put the interest of the bank ahead of their personal interests are likely to ensure that the operations of the banks improve in order to circumvent issues of financial crisis. Considering the current finding, it shows that the banks in Ghana are, to some extent, practising good corporate governance and, thereby, continuous improvement in their corporate governance duties are likely to decrease the odds of financial crisis occurring.

This finding correlates with the assertions of Bank of Ghana (2018) and Afolabi (2018). According to the Bank of Ghana, among other things, corporate governance has been mentioned as one of the major predictors of financial crisis. However, Bank of Ghana did not carry out any empirical study to substantiate this assertion. Therefore, the finding of the current study has come to affirm the assertion of the Bank of Ghana. Also, the report by Afolabi that stated that corporate governance is a predictor of financial crisis was not an empirical study. Thus, the current empirical finding has come to confirm the position of Afolabi. This only goes to show that, empirically, only few studies have considered corporate governance and financial crisis. According to the Bank of Ghana, poor corporate governance was one of the causes of financial crisis in Ghana. Afolabi supported this assertion, and the current finding correlates with these assertions.

Also, the finding supports the assertions of Yeoh and Koronios (2010), Kwesi (2018) and Banker (2017). In various terms, these researchers stated that the health of an organisation is dependent on its corporate governance. Thus, good corporate governance ensures that shareholders’ interests are given priority, and this saves the banks from issues of conflict of interest which can possibly land the banks in crisis. This is to say that improvement in corporate governance of banks in Ghana has favourable influence on the occurrence of financial crisis. On the other hand, banks where the managers and directors fail to uphold good corporate governance are likely to have increase in the chances of suffering financial crisis.

Further, the finding shows consistency with the finding of Tarraf and Majeske (2013) who found that corporate governance influences financial crisis. This is to say that improvement in corporate governance of banks decreases the odds of the banks experiencing the occurrence of financial crisis. Thus, according to Tarraf and Majeske, failures in corporate governance contribute to the occurrence of financial crisis, globally. This means that banks in Ghana can avoid the occurrence of financial crisis if the managers and directors play their roles well to ensure that governance is upheld in the interest of the banks and the owners.

The finding also corroborates the finding of Chancharat and Chancharat (2013) who found a positive association between corporate governance and firm survival. Chancharat and Chancharat (2013) proceeded to assert that as firms' corporate governance improves, the firms' survival is positively affected and, hence, decreasing the likelihood of financial crisis occurring. This implies that banks' survival is, to a large extent, influenced by good corporate governance. For banks in Ghana to survive the test of time, good corporate governance is key as the possibility of financial crisis occurring is decreased with good corporate governance.

Furthermore, this finding is consistent with the position of the corporate governance theory which stated that failure of key stakeholders of organisations to guard against aggressive risk taking is responsible for financial issues and distress suffered by organisations (Berle, & Gardiner, 1968). This assertion of Berle and Gardiner was upheld by Tarraf (2011). This is to say that poor corporate governance contributes to the occurrence of financial crisis. Thus, within the banking industry, if managers and directors look on for things to go awry or engage in activities which are unregulated and highly risky, the odds of financial crisis occurring increases, and the reverse holds true.

In summary, the results revealed that corporate governance has a crucial impact on financial crisis. This means that the occurrence or nonoccurrence of financial crisis in Ghana is determined by the corporate governance activities of banks in the country. This finding showed consistency with the findings of most of the empirical studies reviewed. Also, the corporate governance theory has been upheld by the current finding. Improved corporate governance in banks is, therefore, linked to decreased odds of financial crisis occurring, and poor corporate governance has been associated with increased likelihood of financial crisis occurring in Ghana.

Summary of Hypotheses Tested, Results and Conclusions

This section presented a summary of the hypotheses tested, the outcomes, decisions, as well as the conclusions drawn. The summary of the tests were as shown in Table 10.

Table 10: Summary of Hypotheses Tested, Results and Conclusions

Hypotheses statement	Results *Logistic coefficient*	Decision	Conclusions
H^1_{0a}: There is no statistically significant effect of credit risk on financial crisis in Ghana.	B = -22.528 $P < 0.05$	H^1_0 rejected	Statistically significant negative effect of credit risk on the odds of financial crisis occurring
H^1_{0b}: There is no statistically significant effect of financial distress on financial crisis in Ghana.	B = 0.624 $P < 0.05$	H^2_0 rejected	Statistically significant positive effect of finance distress on the odds of financial crisis occurring
H^1_{0b}: There is no statistically significant effect of corporate governance on financial crisis in Ghana.	B = -6.232 $P < 0.05$	H^3_0 rejected	Statistically significant negative effect of corporate governance on the odds of financial crisis occurring

Obs = 220
Source: Field Data (2021)

Qualitative Findings and Discussion

The goal of the qualitative study was to get more insights into the causes of financial crisis in Ghana, and also to corroborate the findings of the quantitative study to ensure triangulation. The interviews involved the managers of the 23 banks involved in this study. The interviews were conducted after the quantitative data had been collected. To arrive at well-organised qualitative findings, the NVivo version 8 was used in managing the text (data) to arrive at meaningful themes. The data were transcribed into codes, and emerging codes were categorised. The researcher then pulled the similar categories together to form themes, using the constant comparative methods. In a nutshell, the analysis procedure followed the qualitative data analysis process shown in Figure 5.

The presentation of the findings followed a thematic approach, addressing the various antecedents or causes relating to the occurrence of financial crisis. The analysis generated five themes as presented in Table 1. Further, the researcher discussed, in more details, as presented below the Table 11, each of the emerging themes.

Table 11: Transcript Excerpts and Themes

Example of transcript excerpts	Codes	Themes
"*I believe political interference is one of the major causes of financial crisis in Ghana, and even . . .*" " *. . . social instability coupled with government's inability . . . to support banks . . .* "	• Political exposure • Social instability	Political and social instability
"*Management does not make honest disclosures . . . fueling poor auditing by external auditors, then resulting in the failure of the financial system.*" "*Some of the bank employees and directors are criminals. . . . always stealing from the system, causing the system to fail. . . .* " "*I think frivolous and unnecessary spending by management is quite a key factor . . .* " "*We all are aware management and administration of the financial system has not been at its best . . .* "	• Dishonesty and criminal acts • Excessive spending • Poor administration and management	Governance issues
"*High rate of nonperforming loans is a contributory factor.*" " *. . . poor credit management by management . . .* "	• Non-performing loans • Poor credit management	Credit problems
"*I think supervision of the financial*	• Inadequate	

system by the necessary authorities has been woefully inadequate." "*. . . acquiring licence under false pretence, due to policy and regulatory failure . . .* " "*I just believe the monetary system itself is broken, especially in this country. . . .*"	supervision • Broken monetary system • Policy and regulatory failure	Regulation and supervision issues
". . . perception and speculation leading to panic withdrawal by depositors." "*As far as I'm concerned, excess leverage is at the centre of all financial crisis*" "*. . . and liquidity issues among others, . . .*" "*. . . promising clients high returns on their deposits and investments; meanwhile, business may not be that perfect . . .*"	• Perception and speculations • Liquidity problems • Excessive leverage • High returns paid on deposits and investments	Financial distress

Source: Field Survey (2021)

Theme I: Political and social instability

From the analysis, political and social instability was revealed as one of the causes of financial crisis within the Ghana's financial sector. The managers asserted that political activities of owners of the banks and other financial institutions trigger the occurrence of financial crisis in that as one political party which those owners are associated with is out of power, the new government tends to make things difficult for the supporters of the erstwhile government. Changes in political leadership of countries usually come with different set of regulatory conditions and economic policies; these regulatory conditions and economic policies, most often than not, do not favour many organisations. In terms of social instability, as different governments put forth new policies, individuals and organisations not favoured by these policies tend to demonstrate, leading to disruption in productivity which affects the financial system adversely.

The following statements substantiate these findings.

"*. . . political interference or exposure causes friction within the financial industry leading to system failure; eventually leading to the occurrence of crisis*" (Manager 001).

"*I believe political interference is one of the major causes of financial crisis in Ghana, and even in the world as a whole*" (Manager 003).

"*. . . social instability coupled with government's inability, due to political affiliation of owners of the financial institutions, to support banks leads to occurrence of financial crisis* " (Manager 007).

"*. . . I believe unhealthy politics is the cause . . .*" (Manager 008; Manager 010; Manager 015).

"*Social instability and political instability . . .*" (Manager 009; Manager 017; Manager 021).

This finding, elicited from the bank managers, is not surprising, as it was not uncommon to hear people attribute the crisis suffered by the financial sector to political activities. Just as posted earlier by the researcher, bank and other financial institution owners' affiliation to particular political parties has been cited by many individuals to have triggered the occurrence of financial crisis in Ghana. This follows from their assertion that bank owners tend to support, financially, the political parties they support, and if the party they do not support wins elections, it is possible this party will make policies which do not favour the supporters of opposition parties, such as increasing the minimum capital requirements beyond what these financial institution owners can afford; hence, forcing them out of business.

Though not really rooted or established in literature as an obvious cause of financial crisis, the possibility of political and social instability can triggering the occurrence of financial crisis is very high, especially in Africa where people would do anything for power. The researcher is, then, of the stance that it is based on this that Nyavor (2018) and Sikasem (2017) reported that the crisis suffered by the Ghana's financial sector was politically motivated. Also, the fact that some of the opposition political parties promised to reinstate some of the defunct banks and pay off depositors, whose funds have locked up with those banks, should they be voted into government (Stephenson, 2018) pointed to the same thing that there might be political interests in the activities of the financial sector.

Further, apart from the fact that owners of the banks play politics, the management of these banks might also have conflicting interests as far as political affiliations are concerned; this could work against the progress of these banks as there might be cold political war among managers, leading to impediment of proper financial activities of these banks. As made clear in the foregoing paragraph, no empirical studies have really been done on assessing whether political and social instability influences the occurrence of financial crisis; this means that, among other things, this finding is beneficial to literature as the basis upon which further studies can be conducted has been established by this finding.

Theme II: Corporate governance issues

According to the findings, another potential cause of financial crisis which emerged is governance issues in banks. Issues such as dishonesty and criminal acts, excessive spending, and poor administration and management, among other related activities of management have been found to be responsible for the occurrence of financial crisis. The following comments elicited from the manager interviewees corroborated this finding.

"*. . . most managers, instead of ensuring the right auditing is carried out, they connive with external auditors to produce reports that favour them and the bank . . .*" (Manager 001).

"*Management does not make honest disclosures to shareholders and auditors, fueling poor auditing by external auditors, and eventually resulting in the failure of the financial system*" (Manager 015).

"*Some of the bank employees and directors are criminals, and fraud perpetrators, always stealing from the system, causing the system to fail and eventually collapse*" (Manager 021).

"*. . . governing board engages in fraudulent activities . . .*" (Manager 023; Manager 021; Manager 013).

"*I think frivolous and unnecessary spending by management is quite a key factor . . .*" (Manager 003).

"*We all are aware management and administration of the financial system has not been at its best . . .*" (Manager 004).

"*. . . poor management and administration . . .*" (Manager 006).

"*. . . poor governance . . .*" (Manager 019; Manager 005).

". . . conflict of interest . . ." (Manager 018).

Governance issues or corporate governance issues emerging as a predictor of financial crisis was not unexpected as this has already been well established in literature; Yeoh and Koronios (2010), in their studies, shared that governance is one of the key determinants of performance of organisations. This is to say that failure of banks, to a large extent, can be attributed to activities related to corporate governance. This emergence also corroborates the findings of Tarraf and Majeske (2013) which asserted rather clear and straightforward that corporate governance contributed to the occurrence of the 2007 – 2008 global financial crises. Also, Chancharat and Chancharat (2013) revealed that there is association between governance and financial crisis.

In summary, governance issues have been widely cited to have contributed to the occurrence of financial crisis. The findings from the interviews are, thus, not surprising as even the quantitative section of this study had already confirmed the association between corporate governance and occurrence of financial crisis. Also, most of the interview responses pointed towards elements of corporate governance. This shows that managers and directors, as well as key employees of banks in Ghana can contribute to averting issue of occurrence of financial crisis if they focus more on achieving the banks' objectives rather than giving preference to their personal interests.

Theme III: Credit problems

Again, the findings from the interview revealed that credit problems may be a precursor of the occurrence of financial crisis. Issues related to credit can pose several problems for banks, as far as their sustainability and continuous operation is concerned. Elements such as unsecured lending, high rate of non-performing loans, credit defaults, and poor credit management have been found to be the characteristics of credit problems leading to credit risk within Ghana's financial sector. The following quotes from the manager interviewees substantiate these findings.

"*High rate of nonperforming loans is a contributory factor*." (Manager 002).

"*. . . poor credit management by management* . . ." (Manager 020).

"*. . . because most of the banks lend to clients without securing* . . . ; *no collateral* . . ." (Manager 016).

"*. . . credit default is one of the major causes* . . ." (Manager 022; Manager 014).

Banks' credit related activities, such credit management practices are undoubtedly considered when it comes to smooth operations of banks. Therefore, it is not surprising that credit problems emerged as one of the causes of financial crisis, as far as the Ghanaian setting is concerned. Mishkin and Eakins (2018), considering the American context, posited that credit risk management practices might lead to saving of banks from potential financial distress which could eventually lead to a full-blown crisis. Similarly, Khouri (2011) found that credit risk was the major factor that affects banks' finances. These studies reported positive association between credit problems and financial crisis. This only goes to confirm that this finding has already been established in literature, hence, not unexpected.

Conclusively, it can be said that credit problems, according to the in-depth interviews with the bank managers, are among the various causes of the occurrence of financial crisis. This can be explained that as the management of banks fails to put forth credit management policies, credit default rates appreciate culminating in high levels of non-performing loans. Since these loans are not secured with collaterals in most cases, as revealed by the interview findings, default on payment by the borrowers adversely affects and interrupt the banks' cash flow, causing financial distress to the banks, and eventually, plunging these banks into crisis.

Theme IV: Regulation and supervision issues

From the interview it was found that regulation and supervision issues are a good predictor of occurrence of financial crisis. The managers interviewed revealed that financial crisis occur due to poor supervision and lapses in regulation leading to broken monetary system, as well as policy and regulatory failure contributing to financial institution owners acquiring permits and licenses under false procedures. The following responses from the manager interviewees validate this finding.

"*I think supervision of the financial system by the necessary authorities has been woefully inadequate*" (Manager 013).

"*. . . acquiring licence under false pretence, due to policy and regulatory failure* . . ." (Manager 012).

"*I just believe the monetary system itself is broken, especially in this country*. . . ." (Manager 023).

"*. . . lack of proper regulation* . . ." (Manager 020).

This finding, just like some of the forgoing findings, is not surprising as literature has linked the occurrence of financial crisis to supervision and regulatory issues in banks and other financial institutions (BoG, 2018; Frimpong, 2018; Roy, & Kemme, 2012). This is to say that the financial crisis suffered by the banks in Ghana has been associated with regulatory and supervision issues; the authorities whose responsibility is it to ensure that various rules and regulations are complied with by the banks have not really been doing what is expected of them. This has led to many regulatory breaches in the financial system, eventually, leading to crisis.

To conclude, it can be said that supervision and regulatory activities, considering their potential of triggering the occurrence of financial crisis, can be paid much attention to by the managements of banks in Ghana, as well as the Bank of Ghana in its overall supervisory role, in order to ensure that lapses in the system are taken care of to avert future occurrence of financial crisis. Nonetheless, as authorities pay attention potential breaches in regulations, they should also take into consideration activities involved in by banks during registration and licensing to enable them validate the licence acquisition process.

Theme V: Financial distress

When banks find themselves in financial distress, the likelihood of crisis occurring increases; this implies a positive association between financial distress and occurrence of financial crisis. The banks managers interviewed made it clear that liquidity issues, excessive leverage, high returns paid by banks on deposits and investments, among others directly contribute to financial distress of banks. For instance, banks with liquidity issues find it difficult to honour their obligations to their clients, and this puts financial distress on the banks when depositors begin to mount pressure on the banks. Also, some of the banks have more debts than owner equity on their financial statements (excessive leverage). This heightens pressure on the banks when the creditors begin to demand for pay back of their money.

Also, at times, banks put themselves in difficult situations by promising depositors high returns on their deposits and investments. However, it mostly becomes difficult for many banks to pay high returns, in the shortest possible time, to their clients in case the clients ask for total withdrawal of all their deposits with the returns. When this continues, banks which cannot stand the pressure may want to dispose of physical assets, out of distress, in order to pay the clients. Following these, crisis is highly possible. The interviews also revealed that depositors' perceptions and speculations influence the amount of cash they withdraw from banks at a point in time. For instance, when depositors speculate that banks will not be able to make their deposits available to them in future, it is likely they will rush to the banks for total withdrawal of their deposits which lands the banks in financial distress, a precursor of financial crisis.

The foregoing findings were substantiated by the following remarks by the interviewees.

"I believe perception and speculation leading to panic withdrawal by depositors" (Manager 001).

"*As far as I'm concerned, excess leverage is at the centre of all financial crisis . . . and liquidity issues among others*, . . ." (Manager 017).

"*. . . promising clients high returns on their deposits and investments; meanwhile, business may not be that perfect . . . this has caused many of the problems faced by banks today*" (Manager 007).

This finding is not surprising as it has already been established in literature (Ajakaiye et al., 2010; Winkler, 2010). This only confirms the fact that, financial distress being one of the causes of financial crisis, causes of financial crisis in one setting may not be entirely different from the causes of financial crisis in another setting. For instance, Ajakaiye et al.'s (2010) study in Nigeria shared a similar finding as financial distress was found to have positive association with bankruptcy and financial crisis. Also, Winkler found that financial institutions are forced to wind up activities because they are not able to meet financial demands of their clients or depositors; this puts financial pressure on the institutions and eventually leads to their collapse. These studies corroborate the current findings revealed by the interviews.

These themes have enlightened the comprehension of the causes of financial crisis, and have also helped identify potential causes of the occurrence of financial crisis, taking into consideration the Ghanaian context. In summary, the factors which could trigger the occurrence of financial crisis in Ghana are (1) supervision and regulatory issues, (2) governance issues, (3) credit problems, (4) financial distress, and (5) political and social instability. The relationship between these causes of financial crisis and financial crisis has been presented below in the tree-map in Figure 6 generated by the NVivo.

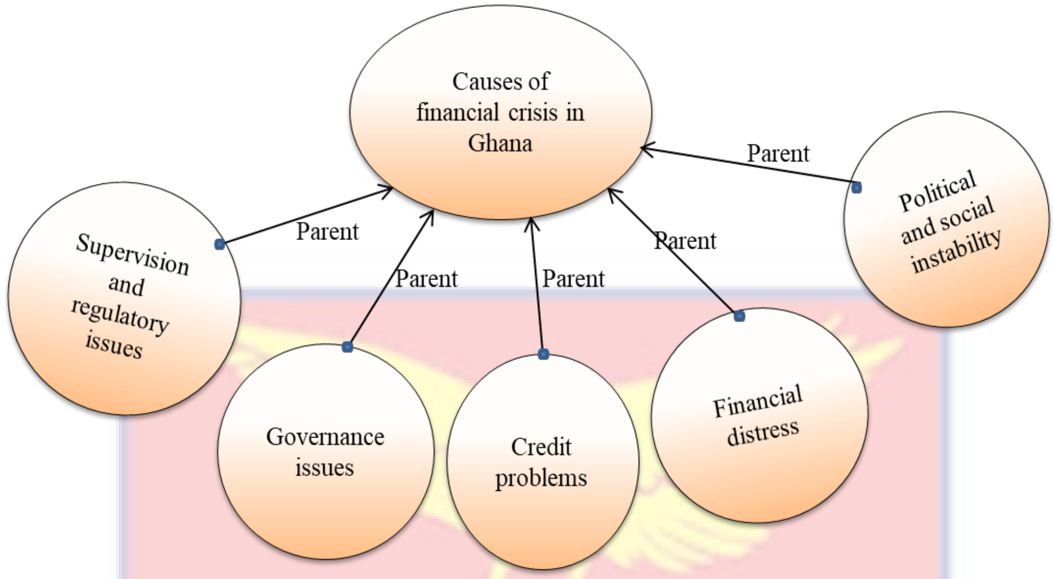

Figure 5: Causes of financial crisis in Ghana
Source: Author's construct (2021)

Point of Integration

This section of the chapter sought to uphold the mixed method used in this study by integrating the findings produced by both the quantitative and the qualitative analyses. From the results, it became obvious that the findings of the qualitative study corroborate the findings of the quantitative study. For instance, the quantitative section of the study revealed that corporate governance has significant influence on the occurrence of financial crisis. This finding has been validated by the qualitative findings as it was revealed that governance issues are among the major causes of financial crisis. This shows the point of convergence of both the quantitative and qualitative findings, as far as governance issues are concerned.

Also, the effect of credit risk on the occurrence of financial crisis as revealed by the quantitative analysis has been substantiated by the qualitative findings. Further, financial distress has been revealed by the qualitative findings to have contributed to the occurrence of financial crisis in Ghana. The quantitative finding had established this relationship between financial distress and occurrence of financial crisis. This finding has also been supported by the findings produced by the interviews.

However, a new theme emerged – political and social instability. This seems to produce a point of divergence between the findings of the quantitative and the qualitative studies. This is not surprising as the occurrence of the financial crisis in Ghana was widely alleged to have been motivated by political activities. This then made it possible for any Ghanaian citizen who follows local financial news or reports to have in their minds political and social instability as being one of the potential causes of financial crisis in Ghana. Notwithstanding, the researcher is of the view that political activities are carried out by those in management of the banks; thus, this makes it possible for political and social related practices to be included in corporate governance issues. This can even be inferred from several assertions made in the foregoing sections of the chapter.

Chapter Summary

This chapter presented the results and discussion of the study. The chapter presented interviewees' demographics. It was shown that the number of male managers of banks in Ghana was slightly higher than the number of female managers. The minimum age revealed was between 31 – 40 years, and maximum between 51 – 59 years. Also, the minimum academic qualification possessed by a manager was Bachelor's degree. Majority of the managers reported they were single at the time of the interviews for this study. Finally, it was revealed that the minimum and the maximum number of years a manager has been with a bank ranged from one to five years and six to 10 years, respectively.

Furthermore, considering the main study findings, credit risk was found to have significant negative effect on the occurrence of financial crisis in Ghana. On the other hand, financial distress was revealed to have significant positive effect on the occurrence of financial crisis in Ghana. Also, corporate governance was shown to have significant negative effect on the possibility of financial crisis occurring in Ghana. All the quantitative findings were statistically significant. Finally, the qualitative findings produced using the thematic approach revealed five possible causes of financial crisis in Ghana – political and social instability, governance issues, credit problems, regulation and supervision issues, and financial distress. These findings corroborated the quantitative findings. The succeeding paragraph presents summary, conclusions and recommendations.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter aims at presenting the summary, key findings, conclusions, and recommendations of this study. The summary presents a brief overview of the study problem, objectives, research methods and analytical techniques employed, as well as the study findings. Key findings section focuses on the summary of the main findings of the study. On the other hand, the conclusions summarise the overall outcomes and implications regarding the findings of the study with cognisance of the research objectives. The recommendations also present specific remedies or suggestions to be applied by specific concerned individuals and institutions. The chapter closes with suggestions for further research in the area of the current topic.

Summary

Finance is an area which cannot be downplayed in any economy. This explains why many economies across the world take their financial systems seriously to ensure their sustainability, and to ensure that sanity prevails in the system. Ghana is no exception, as the Bank of Ghana and government of Ghana embarked on an exercise to clean Ghana's financial sector in order to strengthen the system for robust economic development. This exercise was motivated by failure of financial institutions, specifically banks, within the financial sector, causing financial crisis. This unfortunate happening was attributed to many factors of which the prominent ones were credit risk, financial distress and corporate governance. However, no empirical study has been conducted to look at these factors and test their influence on the occurrence of financial crisis, using mixed methods to ensure triangulation.

It was based on the forgoing that the current the study sought to analyse the underlying causes of financial crisis in Ghana. The mixed method, employing the sequential explanatory mixed design, was used. The criterion technique was used to select a sample made of 22 out of 23 commercial/universal banks in Ghana as at 2020. The study also made use of both secondary and primary data. The secondary data were extracted from the Annual Reports of the banks for a 10-year period, from 2010 to 2019, producing a total of 220 observations for analysis. The primary qualitative data were collected from the 23 managers of the 23 commercial banks, using a semi-structured interview guide. For the quantitative data processing and analysis, both the descriptive statistics, such as mean and standard deviation; and the inferential statistics, such as the Pearson product-moment correlation and binary logistic regression, were used.

For the analysis of interview data for the qualitative study, the thematic approach was employed, making an extensive use of NVivo version 8. Prior to the main data analyses in Chapter Four, a preliminary analysis was carried out to ensure that the assumptions of the Maximum Likelihood Estimation (MLE) was met and the model specified fitted the quantitative data. From the main analyses, credit risk was found to have significant negative effect on the occurrence of financial crisis in Ghana; further, financial distress was revealed to have significant positive effect on the occurrence of financial crisis in Ghana; finally, corporate governance was shown to have significant negative effect on the possibility of financial crisis occurring in Ghana. The qualitative findings revealed political and social instability, governance issues, credit problems, regulation and supervision issues, and financial distress as causes of crisis.

Summary of Major Findings

The first objective aimed at assessing the effect of credit risk on financial sector crisis in Ghana. The results showed that credit risk had effect on the occurrence of financial crisis in Ghana. This effect was found to be statistically significant. The relationship found between credit risk and the odds of financial crisis occurring in Ghana was negative. This is to say that as credit risk of banks in Ghana changes, the odds of financial crisis occurring in Ghana also changes but in the inverse direction. The significance of this finding led to the rejection of the null hypothesis.

Further, the second objective sought to analyse the effect of financial distress on financial sector crisis in Ghana. The result showed a significant effect of financial distress on financial crisis in Ghana. The finding actually pointed out that financial distress influences the odds of financial crisis occurring. The association found between the two variables, financial distress and financial crisis, was positive. In other words, a change in financial distress will definitely have implications for the odds of financial crisis occurring in Ghana, and this change in financial crisis will move in same direction as the changes in the precursor, financial distress. This finding also caused the null hypothesis to be rejected, considering its significance.

Additionally, the third study objective sought to examine the effect of corporate governance on financial sector crisis in Ghana. The results showed that corporate governance has effect on financial sector crisis in Ghana. Specifically, the outcomes revealed that corporate governance has a significant negative effect on the odds of financial crisis occurring. This is to say that a change in corporate governance will cause an opposing effect on the possibility of financial crisis occurring in Ghana. Also, the null hypothesis was found to have been rejected, considering the statistical significant nature of the effect of corporate governance on the odds of financial crisis occurring.

Finally, the qualitative analysis revealed that political and social instability, governance issues, credit problems, financial distress and supervision and regulatory issues, being the emerging themes from the interviews, are potential factors which could trigger the occurrence of financial crisis in Ghana. These qualitative findings have also been found to be in consonance with the quantitative findings; hence, achieving triangulation and corroboration of findings produced by the mixed method – quantitative and qualitative – employed by the study.

Conclusions

Considering the findings of the study, the following conclusions could be drawn based on the study objectives. The first objective aimed at assessing the effect of credit risk on financial sector crisis in Ghana. The results showed that credit risk has effect on the odds of occurrence of financial crisis in Ghana. This may imply that managements of banks in Ghana have been, to some extent, managing the affairs of their banks well as far as credit is concerned, as well as the overall management of banks. This might be the reason for the outcome that increase in credit risk decreases the odds of financial crisis occurring in Ghana. It can, therefore, be concluded that managements of Ghanaian banks are performing well in other areas which accommodate the adverse effect of increased credit risk on the odds of financial crisis occurring, thereby, reducing the odds of financial crisis occurring even when credit risk increases.

Further, the second objective sought to analyse the effect of financial distress on financial sector crisis in Ghana. The result showed a significant positive effect of financial distress on financial crisis in Ghana. It can then be concluded that banks in Ghana are facing issues related to liquidity; this might force most of the banks into bankruptcy, thus forcing them into financial crisis in the long run. This explains why financial distress has a direct relationship with the odds of financial crisis occurring in Ghana. This can also imply that most of the banks in Ghana are not in good financial standing causing them financial distress hence making them more vulnerable to financial crisis.

In addition, the third study objective sought to examine the effect of corporate governance on financial sector crisis in Ghana. The results showed that corporate governance has a significant negative effect on the odds of financial sector crisis occurring in Ghana. This implies that improving corporate governance practices by managements of banks in Ghana will result in decrease in the odds of financial crisis occurring in Ghana. Thus, considering the direction of the relationship between corporate governance and the odds of financial crisis occurring, it can be concluded that managements of banks in Ghana, to some appreciable extent, are placing governance mechanisms right, hence, resulting in the decreased possibility of financial crisis occurring in Ghana.

Finally, though the results shown by the qualitative analysis were found to have corroborated the quantitative findings, the element of political and social instability as a possible cause of the occurrence of financial crisis in Ghana can be looked at in several ways. For instance, it can be that the banks in Ghana are owned by politicians or the employees in management positions conflict politics and social activities with the duties they are expected to carry out at the banks. This way, it can be concluded that banks in Ghana have been politicised and that change of government will likely influence the odds of financial crisis occurring in Ghana.

Recommendations

Having considered the key findings and the conclusions drawn, it was imperative to make recommendations which might positively influence the activities of banks in Ghana, leading to avoidance of future occurrence of financial crisis. The researcher, therefore, made the following recommendations based on the current findings and conclusions drawn.

1. Managers, directors and staff of banks in Ghana should be given international-standard credit management training to enable them fully understand and appreciate the implications of credit risk for survival of banks. This can also be achieved by ensuring all potential bank employees

have in-depth and proven knowledge in credit risk, credit management, and their associated elements before giving them positions in the banks.

2. Board of Directors and Management of banks should be put under constant surveillance to ensure that the banks' resources are not used for personal gains which may plunge the banks into financial distress. This should be ensured by the substantive owners or shareholders of the banks in Ghana.
3. The assessment of banks should be done by independent bodies, to ensure that the process is devoid of politics and social ties. Also, individuals occupying high managerial positions in banks should be forbidden from disclosing their political affiliations; this can be achieved through internal rules and regulations made available to all the bank employees.

Suggestions for Further Studies

This study seems to be the first of its kind. Other studies which are closely related focused on the variables used in this study as separate entities and against other variables not considered in the current study. Aside these, many gaps have been identified in the literature. Considering these, the researcher suggests that further studies are carried out to look at: One, the relationship between politics and occurrence of financial crisis in Ghana; two, the effect of corporate governance on financial crisis in Ghana, taking into consideration the moderating effect of politics, and finally, a qualitative study to find out the causes of financial crisis, soliciting data from depositors.

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APPENDICES

APPENDIX A: LIST OF BANKS IN GHANA MAKING UP STUDY POPULATION

SN	BANK NAMES
1	Absa Bank Ghana Limited
2	Access Bank Plc.
3	Agricultural Development Bank
4	Bank of Africa Limited
5	CalBank Limited
6	Consolidated Bank of Ghana
7	Ecobank Ghana Limited
8	FBN Bank Limited
9	Fidelity Bank
10	First Atlantic Bank Limited
11	First National Bank Ghana
12	GCB Bank
13	Guaranty Trust Bank
14	National Investment Bank
15	OmniBSIC Bank Ghana Limited
16	Prudential Bank
17	Republic Bank Ghana Limited
18	Societe Generale Ghana Limited
19	Stanbic Bank
20	Standard Chartered Bank
21	United Bank for Africa Limited
22	Universal Merchant Bank
23	Zenith Bank

APPENDIX B: LIST OF BANKS IN GHANA MAKING UP STUDY SAMPLE

SN	BANK NAMES
1	Absa Bank Ghana Limited
2	Access Bank Plc.
3	Agricultural Development Bank
4	Bank of Africa Limited
5	CalBank Limited
6	Ecobank Ghana Limited
7	FBN Bank Limited
8	Fidelity Bank
9	First Atlantic Bank Limited
10	First National Bank Ghana
11	GCB Bank
12	Guaranty Trust Bank
13	National Investment Bank
14	OmniBSIC Bank Ghana Limited
15	Prudential Bank
16	Republic Bank Ghana Limited
17	Societe Generale Ghana Limited
18	Stanbic Bank
19	Standard Chartered Bank
20	United Bank for Africa Limited
21	Universal Merchant Bank
22	Zenith Bank

APPENDIX C: SEMI-STRUCTURED INTERVIEW GUIDE

INTERVIEW GUIDE
UNIVERSITY OF CAPE COAST

Dear Respondent

This study seeks data on the causes of financial crisis. The specific topic under study is "*Financial Sector Crisis in Ghana: A Study of the Underlying Causes*". The results of this survey will form a basis for formulating ways and policies which will lead to strengthening the Ghanaian financial sector. Kindly respond to the questions as carefully as possible. Your response will be used for academic purposes only. Your confidentiality is assured. Thank you for taking time off your busy schedule to grant an interview.

Q1. Can you kindly tell me your age?

Q2. How long have you been with this bank?

Q3. What is your highest academic qualification?

Q4. Are you married? If NO, have you been married before?

Q5. Do you have any idea about financial crisis? (If YES, proceed with Q6; otherwise, move to Q7)

Q6. Kindly share with me what you know about financial crisis

Q7. Are you aware of the recent financial sector crisis in Ghana? (If YES, continue with Q8; if NO, jump to Q9)

Q8. In your opinion, what do you think are the major causes of the recent financial crisis in Ghana? Why do you think so?

Q9. Can you share with me your opinion on factors that can lead to the failure or collapse of banks?

Q10. What would you recommend to ensure prevention of the occurrence of financial sector crisis in Ghana in future?