AKETNEN APPIAH-MENKA UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT

IMPACT OF COVID 19 ON CAPITAL STRUCTURE OF LISTED BANKS IN GHANA

EBENEZER OSEI ADUTWUM

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EBENEZER OSEI ADUTWUM

(8211360003)

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SEPTEMBER, 2023

DECLARATION

CANDIDATE'S DECLARATION

I hereby declare that this thesis is the result of my own original work and that no apart of it has been presented for another degree at this university or elsewhere.

Candidate's Name: **EBENEZER OSEI ADUTWUM**

Signature:…… **Date:**……

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this dissertation were supervised in accordance with guidelines on supervision of dissertation laid down by the Akenten Appiah-Menka University of skills training and Entrepreneurial Development.

Supervisor's Name: **MR. ERIC EFFAH SARKODIE**

Signature: ……. **Date:** …….…….....

DEDICATION

This work is dedicated to my mum Mrs. Juliana Opoku and My Mentor Mrs. Patience Osei - Effah

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Tradition normally requires an expression of gratitude to those who provide any form of assistance for the successful accomplishment of any feat. For this reason, it will be a gross ingratitude of the highest order if the author of this piece of work selfishly claims all the credits for the successful accomplishment of this work without appreciating the numerous services other people provided. First and foremost, I wish to express my greatest appreciation to the almighty God for her support and guidance during the period of research.My heartfelt thanks go to my supervisors, Mrs Seyram Pearl Kumah and Mr Eric Effah Sarkodie who devoted his time and went through the entire work to correct the mistakes and offered valuable suggestions; I say may God richly bless her.Thanks to my mentor Mrs Patience Osei Effah, staff Students of the Kumasi High School for their support during my period combing full time teaching and this masters works Special thanks goes to the following: Mrs Juliana Opoku (mum) Angela Owusu, Anita Serwaa Gyamfi and Joana Owusu (Sisters) and Miss Evelyn Osei (my partner) ; Love you all so much and thanks for your Prayers, Encouragement and Financial Support, and not forgetting the following friends Emmanuel Okyere and Appiah Kubi Elias for their support and suggestions in accomplishment of this research.

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ABSTRACT

The COVID-19 Pandemic presented unprecedented challenges for businesses and financial institutions worldwide, including banks. Nearly all economies were impacted by the pandemic to the extent that global institutions like the World Bank and the International Monetary Fund predicted that global economic growth would be reduced by around 3.1% as a result. According to them, the pandemic would cause a decline in global trade volume of approximately 8.2% (Borri & Giorgio, 2021; Berger, DemirgüçKunt, Moshirian, & Saunders, 2021).

This study investigates the specific impact of the pandemic on the capital structure of Ghanaian listed banks. While COVID-19 acted as an independent variable and was found to be statistically insignificant after regression analysis, other variables played a crucial role. Leverage and profit emerged as significant factors influencing equity, while equity, growth, and profit were found to be significant determinants of leverage.Notably, graphical analysis presented in Figure 1 and 2 revealed a distinct trend among these banks. During the pandemic period spanning 2020 and 2021, firms increased their leverage, reflecting an adaptive response to the economic challenges brought about by the pandemic. It indicates increased financial risk, potential capital adequacy issues, and liquidity challenges, all of which can have negative effects on the institution's stability, operations, and its ability to support economic recovery. This supports the trade – off theory and they were consistent with previous research (Acharya and Steffen, 2020; Halling et al., 2020; Li et al., 2020; Gopalakrishnan et al., 2022).

Simultaneously, equity witnessed a decline. These findings shed light on the dynamic strategies employed by Ghanaian listed banks to manage their capital structure in the face of extraordinary circumstances such as a global pandemic.

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter contains the Background to the Study, Statement of the Problem, Purpose of the Study, research questions, Scope of the Study, Significance of the Study, Limitation of the Study and Organization of the Study

1.1 Background to the Study

The COVID-19 pandemic exerted a substantial influence on diverse sectors, including the banking industry. This pandemic, evolving into a widespread global health crisis, impacted healthcare delivery, international trade, financial markets, and the banking systems, resulting in significant repercussions worldwide (Beck & Keil, 2021; Elnahass, Trihn, & Li, 2021; Borri & Giorgio, 2021). The repercussions were so pronounced that it prompted major global institutions like the World Bank and the International Monetary Fund to predict a global economic growth reduction of approximately 3.1%, alongside an approximate 8.2% decline in global trade volume (Borri & Giorgio, 2021; Berger, DemirgüçKunt, Moshirian, & Saunders, 2021).Commencing in late 2019, the COVID-19 pandemic swiftly spread across the globe, necessitating mobility restrictions and school closures to mitigate its adverse effects. Lockdowns, commonly attributed to supply chain disruptions across various industries, led central banks to lower interest rates and inject liquidity into international markets as an adaptive response (OECD, 2021). These measures effectively prevented a swift and widespread insolvency crisis.Concurrently, the banking sector encountered adversity arising from the pandemic's impact (Beck & Keil, 2021; Demirgüç-Kunt *et al*., 2021; Borri & Giorgio, 2021; Elnahass *et al*., 2021; Acharya & Steffen, 2020). To support governmental and

private sector efforts against the pandemic, central banks introduced enhanced policy interventions (Alabbad & Schertler, 2022; Demirgüç-Kunt *et al*., l2021; Mirzaei, Saad, & Emrouznejad, 2022). Furthermore, they relaxed previously stringent monetary constraints to facilitate business lending, as banks played a vital role in furnishing liquidity insurance for many economies (Musah, Padi, & Baah, Barattieri, 2021).Yet, the literature does not offer a clear consensus on how uncertain economic circumstances affect corporate leverage. During crises and periods of high uncertainty, the need for debt financing often surges (Acharya and Steffen, 2020; Halling *et al.*, 2020; Li *et al.*, 2020; Gopalakrishnan *et al.*, 2022). While some researchers, including Alfaro *et al.* (2018) and Duong *et al.* (2020), contend that corporations tend to hoard larger cash reserves during high uncertainty, financial theory suggests that heightened risk and uncertainty may prompt financial institutions to reduce loan offerings, leading to elevated risk premiums and a diminished appetite for risk (Pastor and Veronesi, 2013). In this context, mounting loss provisions and non-performing loans undermine the supply of finance (Beck and Keil, 2022).

Additionally, the consequences of heightened uncertainty and crises exhibit variations across different industries, as posited by Alfaro *et al.* (2020), Baek *et al*. (2020), and Liu *et al*. (2021).Distinguishing financial crises from the COVID-19 era is significant due to substantial fiscal and monetary policy support afforded to corporations. Initiatives such as the Federal Reserve's acquisition of corporate bonds led to a reduction in the default risk premium for major U.S. businesses (Nozawa and Qiu, 2021). Similar risk mitigation strategies, such as the Financial Restructuring Scheme and tax incentives, may have curtailed risk premiums for firms in Turkey.In the Bank of Ghana's 2021 monetary policy report, an assessment of the banking sector's 2020 performance indicates resilience in

withstanding the initial wave of the COVID-19 pandemic, owing to robust policy support and regulatory measures. Banks extended relief to customers through loan restructuring and moratoriums, thereby cushioning businesses profoundly affected by the pandemic. The sector maintained robust capitalization, liquidity, profitability, and strong shock-absorbing capabilities. Year-end consolidated financial data revealed notable growth in total assets, driven by increased deposits and shareholders' funds, along with a substantial profit upswing in the latter part of the year.

Notably, financial soundness indicators remained predominantly positive. Looking forward, the recovery in credit growth observed in late 2020 is anticipated to persist, facilitated by a more accommodating credit stance and rising credit demand. The banking sector is aptly positioned to support this credit growth resurgence, given its ample liquidity and capital buffers. However, asset quality risk may mount if challenges in the repayment of restructured loans endure, influenced by the prolonged adverse effects of the pandemic's second wave on economic recovery. Striking a balance between growth-supporting initiatives, effective risk management, and cost control remains imperative to sustain the sector's robust performance and support ongoing economic recovery in 2021.Businesses inherently confront systemic risk during routine operations, which encompasses uncontrollable risk elements (Berk & DeMarzo, 2020). As market and exchange rate risks are non-diversifiable, this systemic risk is often termed "non-diversifiable" risk (Anyika, 2015). Exposure to systemic risk forms an inevitable and uncontrollable facet of both private and corporate financial management. Financial crises and economic downturns possess the innate ability to deplete corporate capital swiftly, often leaving businesses with insufficient internal resources to sustain essential operations. These sporadic instances of systemic risk can also constrict the availability

of lending resources during periods of heightened demand, thus raising corporate governance concerns. Managing the corporate capital structure is a complex undertaking, particularly in relation to the debt-to-total asset ratio. Striking the right balance is essential to ensure immediate survival while averting excessive long-term debt commitments. This management bears direct ramifications for numerous factors including the cost of capital, risk profile, liquidity, investor returns, market valuation, and future financing, making it a pivotal responsibility within corporate governance (Bajaj and others, 2021).

In line with the Bank of Ghana's 2021 banking sector development report, the banking sector maintained robust growth and resilience through end-April 2021. Data for the initial four months of the year demonstrated vigorous expansion in total assets, deposits, and investments. Total assets recorded a year-on-year increase of 16.4%, predominantly driven by a 24.2% annual growth in deposits. Although credit growth remained sluggish due to pandemic-induced factors, regulatory reliefs and policy measures continued to bolster lending activities within the banking sector. New advances amounted to GH¢10.5 billion for the first four months of 2021, as compared to GH¢10.9 billion for the same period in 2020.

Notably, total restructured loans, established by banks to ameliorate the circumstances of customers severely impacted by the pandemic, reached GH¢4.65 billion as of March 2021, representing 9.8% of the industry's loan portfolio. The sector displayed continued strength and healthiness in terms of financial soundness indicators, underpinned by heightened solvency, liquidity, and profitability metrics. As a noteworthy milestone, the Banking Sector Stability Index reached its highest level in 15 years by April 2021.

Nevertheless, the industry's non-performing loans (NPLs) ratio continued to inch upward, primarily attributable to the pandemic-induced challenges in loan repayment and sluggish credit growth. In sum, the pandemic's impact on the sector's performance was moderate and financial soundness indicators remained positive (Bank of Ghana 2021).

1.2 Statement of the Problem

The discourse surrounding corporate financing and the optimal capital structure of companies has been a topic of enduring significance since the inception of business enterprises. Contemporary consensus suggests that diverse industries and organizations exhibit varying capital structures. A desirable capital structure should furnish ample funds to sustain efficient and lucrative operations, simultaneously maximizing shareholder returns while minimizing financial risk.

Nevertheless, achieving this ideal capital structure is perceived as more practicable in stable market conditions. In this context, the Bank of Ghana (BoG) elevated the minimum capital requirements for banks in 2017, mandating GH₵400 million for existing commercial banks and GH₵270 million for newly licensed ones. This initiative aimed to fortify these financial institutions against crises and external shocks. The ramifications of BoG's measures resulted in the collapse and consolidation of several banks, attributed to their insufficient capital and financial strategies. Capital structure is widely acknowledged as a cornerstone of a company's longevity. Prior research, such as that conducted by Eriotis *et al*. (2007), underscores the pivotal role of financial decisions in overall corporate success, as ill-conceived decisions can imperil the attainment of an optimal capital structure, thereby jeopardizing the firm's survival. It is posited that corporate management endeavors to identify the ideal capital structure with the intent of

augmenting company value. In a similar vein, Colombage *et al.* (2017) affirm that capital structure decisions significantly influence financial performance, substantiating the peril of inadequate capital. Reflecting on the rarity of the COVID-19 pandemic, akin to the Spanish flu outbreak in 1918, underscores its exceptional global reach. Notably, the COVID-19 pandemic diverges from "pure" financial market disruptions as it partially stems from governmental restrictions, which are atypical of financial crises. Nonetheless, the pandemic has engendered global market tumult and diverse impacts on corporate industries, largely attributed to nationwide restrictions (He *et al.*, 2020). The pandemic has created erratic market conditions, offering a unique opportunity for scholarly examination, akin to a natural experiment (Mimouni *et al.*, 2017). Mimouni *et al.'s* (2017) study on the consequences of the 2007/2008 financial crisis on capital structure supports the relevance of this research topic, elucidating that the pandemic's effects on capital structure differ across industries and nations. Numerous studies have explored the pandemic's effects on the global banking sector, yielding conflicting findings (Demirgüç-Kunt *et al.*, 2021; Katusiime, 2021).

For instance, Yan and Jia (2022) observed that the COVID-19 pandemic challenged the viability of China's banking industry but facilitated the growth of Fintech. Conversely, Katusiime (2021) found evidence in Uganda that the pandemic had a long-term adverse impact on bank profitability. Analyzing Islamic banks, Alabbad and Schertler (2022) discerned a decline in bank net income during the pandemic, signifying reduced bank performance. In a related study, Kozak (2021) noted that larger banks sustained profitability throughout the epidemic, while resilient banks were minimally affected.

Additionally, Musah *et al*. (2021) evaluated the impact of COVID-19 on commercial banks registered with the Bank of Ghana, positing that the pandemic created an opportunity for banks in numerous countries to extend credit to businesses and governments. Despite these findings, these researchers has failed to conduct a study on how the pandemic has affected corporate capital structure in terms of the firms resorting to either leverage or Equity in mitigating the pandemic. This study's focus is to assess the pandemic's impact on the capital structure of listed banks in Ghana.

1.3 Purpose of the Study

The main objective of the study is to examine the impact of COVID 19 pandemic on the capital structure of Ghanaian listed banks. Specifically, the study sought to:

1. Examine the changes in capital structure ratios of Ghanaian listed banks during the COVID 19 pandemic.
2. Assess the effect of the COVID 19 pandemic on leverage and equity of Ghanaian listed banks.
3. Suggest ways to mitigate the effect of the COVID 19 pandemic on capital structure of Ghanaian listed Banks.

1.4 Research Questions

In order to achieve the research objectives, the following questions were posed:

1. What are the changes in capital structure ratios of Ghanaian listed banks during the COVID 19 pandemic?
2. What is the effect of the COVID 19 pandemic on leverage and equity of Ghanaian listed banks?

3. What are the suggested ways to mitigate the effect of the COVID 19 pandemic on capital structure of Ghanaian listed Banks?

1.5 Scope of the Study

Scope of the study contains elements that will be covered in a research project and it defines the boundaries, the extent to which the research area will be explored and thus specifies the parameters that will be observed within the study. According to Chetty (2020), the scope of a research is affected by the time period for the research, geographical area, research population, theories, purpose and limitations of the research. In terms of contextual scope, this study was conducted in Ghana to include the eight (8) banks listed on the Ghana Stock Exchange. In terms of conceptual scope, the study considered COVID 19 pandemic and capital structure ratios including total equity, and leverage. The study controlled for growth, liquidity, profit, and size due to their significant effects on capital structure.

1.6 Significance of the Study

The research significantly adds to the body of knowledge on the effects of the global COVID-19 epidemic on capital structure, particularly in the setting of an African underdeveloped nation. The report substantiates the claim that the pandemic did not affect firms, particularly those in the financial sector, in the same way everywhere. The study serves as the foundation for carrying out similar studies in numerous facets of the Ghanaian economy as it is one of the empirical research that has evaluated the influence of the COVID-19 epidemic on the capital structure on the Ghana stock exchange. The Bank of Ghana can apply the study's findings in its policy framework for the banking industry to strengthen it so that it can resist shocks from abroad.

1.7 Limitations of the Study

This study is on listed banks in Ghana, the limitation of the study is in listed banks on Ghana stock exchange. Time constraints was another limitation, it was not still enough for the researcher to go to all the relevant firms to get relevant information and due to the combination of project and academics work. Financial constraints cannot be overlooked. Financial constraints are also another factor that limited the researcher to go to all look and cranny of the banking firms for data gathering. The researcher lacked finance for transportation, electronic library etc.

1.8 Organization of the Study

The study is structure into five Chapters. The first chapter presents a background to the study, outlines the research problem, objectives, research questions, the significance of the study, and organization of the study. The second Chapter covers a discussion of extensive literature on the subject. Various concepts and theoretical underpinnings are discussed in this section. The third Chapter also covers a detailed breakdown of the designs and methods employed in this study. The results and discussions are presented in the Chapter four whiles the summary, conclusion and recommendation for the study are provided in the fifth chapter.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter contains a variety of information about the topic at hand from diverse sources and authority. It provides a review of the literature that is important to the study. The discussion of concepts that have previously been published in books, journals, or online add to our grasp of the research issue are presented in this chapter. The review acts as the study's overall structure.

2.1 Conceptual Review

2.1.1 Covid 19 Pandemic

The COVID-19 pandemic, as delineated by the World Health Organization (WHO), signifies a global-scale outbreak that encompasses a significant portion of the population across multiple countries or continents. This pandemic typically arises from a new infectious disease or a novel strain of an existing pathogen, where immunity within the population is often limited. The formal declaration of a disease as a pandemic rests within the purview of the WHO and is contingent upon specified criteria, notably involving widespread and sustained human-to-human transmission across diverse geographical regions. Factors such as the geographical extent, disease severity, and societal impact are paramount considerations in this determination. It is worth noting that the term 'pandemic' predominantly denotes the geographic spread and transmission dynamics of the disease rather than its inherent severity (WHO, 2021). The onset of the COVID-19 pandemic transpired in early December 2019 when an outbreak of coronavirus disease 2019 (COVID-19), attributed to the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), emerged in Wuhan City, Hubei Province, China. On January 30, 2020,

the World Health Organization officially classified this outbreak as a Public Health Emergency of International Concern. As of February 14, 2020, the global tally reported 49,053 laboratory-confirmed cases and 1,381 fatalities. The perceived risk of disease transmission prompted numerous governments to implement an array of control measures. To enhance our understanding of the pathogen and the ongoing epidemic, a comprehensive literature review was conducted, encompassing aspects such as the causative agent, pathogenesis, immune responses, epidemiology, diagnosis, treatment, disease management, and strategies for control and prevention (WHO, 2021).

On December 31, 2019, the China Health Authority conveyed a notification to the World Health Organization, reporting several cases of pneumonia with an unknown etiology in Wuhan City, Hubei Province, central China. These cases had been documented since December 8, 2019, and a noteworthy proportion of the afflicted individuals had occupational or residential ties to the Huanan Seafood Wholesale Market, although some early cases lacked any apparent exposure to this market. On January 7, a novel coronavirus, initially designated as 2019-nCoV by WHO, was identified from a patient's throat swab specimen.

Subsequently, this pathogen was rechristened as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by the Coronavirus Study Group, and the disease was officially named coronavirus disease 2019 (COVID-19) by the WHO. As of January 30, 2020, China reported 7,736 confirmed cases and 12,167 suspected cases, while 82 confirmed cases were identified in 18 other countries. On the same day, the WHO declared the SARS-CoV-2 outbreak as a Public Health Emergency of International Concern (PHEIC). The National Health Commission of China reported that as of

February 4, 2020, the mortality rate among confirmed cases in China stood at 2.1%, while cases outside China exhibited a mortality rate of 0.2%. Among patients admitted to hospitals, the mortality rate ranged from 11% to 15%. COVID-19 is characterized by moderate infectiousness and a relatively high mortality rate. Notably, the information available in public reports and published literature has been rapidly expanding (WHO, 2021). The repercussions of the pandemic have reverberated across global economies to such an extent that international organizations, including the World Bank and the International Monetary Fund, prognosticated a 3.1% reduction in global economic growth.

Furthermore, they anticipated an 8.2% decline in global trade volume attributable to the pandemic (Borri & Giorgio, 2021; Berger, DemirgüçKunt, Moshirian, & Saunders, 2021). The pandemic engendered widespread lockdowns and the imposition of social distancing measures in most parts of the world, reshaping the landscape of business operations (Balboula & Metewea, 2021; Kozak, 2020). The pandemic-induced disruptions in the global supply chain wrought havoc upon businesses worldwide, culminating in severe liquidity challenges, primarily due to revenue shortfalls (Demirgüç-Kunt, Pedraza, & Ruiz-Ortega, 2021).

In the realm of finance, leverage is an essential concept denoting the utilization of borrowed funds or debt to finance a company's operational and investment activities. Leverage gauges the extent to which a company relies on debt to underpin its assets and operations. Elevated levels of leverage have the potential to amplify returns and risks for shareholders. Firms exhibiting high leverage may stand to gain higher potential returns, albeit at the cost of heightened financial distress risk. This concept of leverage extends

its utility to both investors and companies. Investors employ leverage as a means to significantly augment potential investment returns, leveraging their investments via diverse financial instruments such as options, futures, and margin accounts. Concurrently, companies can harness leverage as a financial instrument to support asset financing. Rather than resorting to stock issuance to raise capital, companies can opt for debt financing, directing these funds toward augmenting business operations with the ultimate aim of enhancing shareholder value. Investors who may be disinclined to directly employ leverage have alternative avenues to access this financial tool indirectly. They can invest in companies that naturally incorporate leverage into their routine operations to finance expansions, sans necessitating additional capital injection. The strategic application of financial leverage aims to amplify the potential returns from an investment, while concomitantly heightening the potential downside risk should the investment fail to materialize profitably. When a reference is made to an entity, asset, or investment as being "highly leveraged," it signifies a condition where debt outweighs equity.

The role of leverage in the context of significant financial crises was notably prominent during the global financial turmoil of 2008. Certain narratives attribute the crisis to the ambitious pursuit of enhanced returns, manifesting in investment entities and borrowers embracing leveraged positions that, when coupled with market volatility and underperformance, precipitated substantial financial repercussions.

2.1.2.1 Calculation of Financial Leverage

The calculation of financial leverage is a critical component in assessing a company's capital structure and its reliance on debt to optimize profitability. Numerous financial leverage ratios are commonly employed for this purpose, as elucidated in the ensuing discussion.

One such metric is the Total-Debt-to-Total-Assets Ratio, which gauges the extent to which a company employs debt to procure its assets. To calculate this ratio, one divides the total debt by the total assets. An alternative perspective can be obtained by subtracting this ratio from 1, resulting in the Equity-to-Assets Ratio. A high debt-to-assets ratio signifies a substantial reliance on leverage for asset financing, including both short-term and long-term debt instruments (Ross, Westerfield, & Jordan, 2020).

Another pertinent measure of financial leverage is the Debt-to-Equity (D/E) Ratio, which isolates the financing structure by examining the proportion of debt relative to equity. This ratio is computed by dividing the total debt by the total equity. A D/E ratio exceeding one implies that the company possesses more debt than equity. However, it is imperative to recognize that the interpretation of this ratio should be nuanced, as its significance varies across industries and individual company strategies (Brealey, Myers, & Allen, 2017).

2.1.2.2 Advantages and Disadvantages of Financial Leverage

2.1.2.2.1 Advantages

Advantages of employing financial leverage encompass the potential for magnified profits, especially in scenarios where initial investments are augmented by additional

capital. Leverage enables access to more expensive investment opportunities that might otherwise be inaccessible due to limited upfront capital. It can be judiciously utilized in short-term, low-risk situations where substantial capital is required, such as during acquisitions or growth opportunities (Hull, 2017).

2.1.2.2.2 Disadvantages

Nevertheless, financial leverage is not without its drawbacks. Amplified gains are counterbalanced by the potential for exacerbated losses, which could exceed the initial capital investment. Additionally, the utilization of leverage often entails fees, premiums, and margin costs. Thus, even in the event of a loss, one might still be liable for additional charges. The complexity of leverage necessitates astute awareness of one's financial position and the attendant risks. Vigilant portfolio management and potential injections of additional capital may be required to meet broker-imposed equity requirements (Fabozzi & Markowitz, 2018).

2.1.3 Total Equity/Equity Ratio

Total equity represents the residual interest in a company's assets after the deduction of liabilities and serves as an indicator of shareholder funding. It is calculated by dividing total equity by total assets. A higher equity ratio signifies a reduced debt-to-equity proportion. This is composed of contributed capital, retained earnings, other comprehensive income, and treasury stock. It is a pivotal metric used in assessing a company's net worth, financial ratios like return on equity, and overall performance (Stickney, Weil, Schipper, & Francis, 2009).

According to the Financial Accounting Standards Board (FASB), in their Accounting Standards Codification (ASC) 505-10-20, total equity is defined as the residual interest in the assets of the entity after deducting liabilities. It represents the ownership interest of the shareholders. Equity ratio measures the proportion of a company's assets that are financed through equity. It is calculated by dividing total equity by total assets. A higher equity ratio indicates a company has less debt relative to equity. In accounting literature, total equity is defined as the sum of the following components:

1. Contributed Capital: It includes the initial capital invested by the shareholders in the company, such as common stock or preferred stock.

2. Retained Earnings: It represents the accumulated profits or losses of the company that have not been distributed to the shareholders as dividends. Retained earnings are derived from the company's net income, after deducting dividends and any adjustments such as depreciation or taxes.

3. Other Comprehensive Income: It includes gains or losses that bypass the income statement and are directly recorded in equity. This may include items like unrealized gains or losses on available-for-sale securities.

4. Treasury Stock: It represents the company's own shares that have been reacquired from the shareholders. It is subtracted from total equity because it represents a reduction in the ownership interest.

Total equity is an important financial metric as it represents the net worth of a company. It indicates the amount of capital that is available to shareholders or owners after all liabilities have been settled. It is also used in various financial ratios and analysis, such as return on equity (ROE) or book value per share, to evaluate the financial health and performance of a company.

2.1.4 Growth

The concept of "growth" within the realms of accounting and finance pertains to the augmentation or expansion in the magnitude, scale, or value of a corporate entity or its financial indicators as they evolve over time. Growth is a pivotal gauge of a company's trajectory and performance, signifying an escalation in various facets such as size, revenue, profitability, market share, and key performance parameters. It constitutes a pivotal facet of a firm's evolution, augmenting shareholder value and bolstering competitiveness. This growth can be realized organically, through internal expansion initiatives encompassing the diversification of product lines or entry into novel markets, as well as through externally driven pursuits like mergers and acquisitions. For investors, the pursuit of growth often assumes a central role, with metrics such as revenue growth rate, earnings growth rate, and market share growth serving as essential yardsticks for measurement. In the realm of accounting, multiple methodologies for gauging growth exist, with the selection of a specific metric contingent upon the particular facet of growth under scrutiny. Frequently employed metrics encompass:

Revenue Growth: This metric quantifies the augmentation in a company's sales or revenue during a designated period, typically computed as the percentage shift in revenue between two temporal points.

Earnings Growth: This metric quantifies the amplification in a company's earnings or profits over time, usually expressed as the percentage fluctuation in earnings between two timeframes.

Asset Growth: This indicator gauges the escalation in a company's overall assets over a specified timeframe, thereby reflecting the expansion of the company's asset base. It is quantified as the percentage shift in total assets between two timeframes.

Equity Growth: This parameter measures the rise in a company's total equity or shareholders' equity as it progresses over time. It mirrors the accumulation of owners' investments and retained earnings and is often quantified as the percentage shift in total equity between two temporal points.

Market Growth: This metric assesses the amplification in a company's market capitalization or market worth over a delineated period, reflecting the overarching augmentation in investor confidence and the perception of the company's worth (Brigham & Ehrhardt, 2016).

2.1.5 Liquidity

Liquidity, on the other hand, embodies a company's capability to satisfy its short-term obligations and expediently convert its assets into cash sans incurring substantial losses. It constitutes a barometer of a company's aptitude to generate an adequate cash flow and administer its working capital effectively, a pivotal requirement for daily operations, financial commitment fulfillment, and debt servicing. Key indicators of liquidity encompass the current ratio, quick ratio, and cash ratio

2.1.6 Firm Size

Firm size pertains to the extent or magnitude of a company's operations and is quantified through diverse metrics encompassing total assets, revenue, market capitalization, or the count of employees. Firm size bears significance in shaping a company's market sway, competitive posture, and capacity to seize market opportunities, access to resources, financing alternatives, and economies of scale. Larger companies tend to present diversified product portfolios, enhanced access to capital markets, and bolstered brand recognition (Barney, 2007).

2.1.7 Interest Rates

.Interest rates play a substantial role in shaping the capital structure of banks. Low interest rates render borrowing funds at a reduced cost, thereby incentivizing banks to augment their debt utilization. However, low-interest rates can potentially narrow the spread between borrowing and lending rates, impacting bank profitability. In this scenario, banks may seek supplementary capital from equity markets, potentially altering their capital structure. Regulatory authorities may also impose increased capital requirements in response to augmented risk-taking, compelling banks to bolster their capital reserves through equity issuance. Furthermore, investor preferences and market conditions can be swayed by low-interest rates, potentially influencing equity issuance by banks. As interest rates fluctuate, banks adjust their capital structures to optimize financial positioning (Madura, 2018).

2.1.8 Profitability

Profitability's influence on a bank's capital structure is profound. A bank's ability to generate internal funds through substantial profits can decrease its dependence on external debt for operations and expansion. Profitable banks often retain earnings, utilizing them for growth without requiring additional debt or equity issuance. A robust profitability record augments a bank's appeal to equity investors and aids in securing external equity funding. Additionally, profitability enhances a bank's capacity to service debt, as it indicates a robust cash flow for interest payments. Finally, profitability provides a cushion against unforeseen losses, enhances capital adequacy, and impacts market perception positively. A profitable bank is often perceived as financially stable and enjoys lower borrowing costs (Van Horne & Wachowicz, 2008).

Reduced Reliance on Debt: A highly profitable bank generates significant internal funds through its operations. When a bank consistently earns strong profits, it may reduce its reliance on external debt to fund its operations and growth. This can result in a lower debt-to-equity ratio, indicating a more equity-heavy capital structure.

Increased Retained Earnings: Profitable banks often retain a portion of their earnings instead of distributing them as dividends. These retained earnings can be used to finance expansions, acquisitions, or investments without the need for additional debt or equity issuance. This can contribute to a higher proportion of equity in the capital structure.

Attracting Equity Investors: Banks with a track record of profitability are more attractive to equity investors. Investors are more willing to provide capital through equity investments (e.g., common stock) when they expect a bank to generate strong returns. This can lead to an increase in the equity component of the capital structure.

Debt Capacity: Profitability can enhance a bank's ability to service debt. Lenders are more likely to extend credit to banks with consistent profits because they have the cash flow to cover interest payments and repay principal. Higher profitability can support higher debt levels in the capital structure.

Risk Mitigation: Profitability provides a cushion against unexpected losses and adverse economic conditions. Banks that earn healthy profits can better absorb loan defaults or other financial setbacks without compromising their capital adequacy. This can influence the bank to maintain a more conservative capital structure.

Capital Adequacy: Regulatory authorities often require banks to maintain a certain level of capital adequacy to ensure stability and protect depositors. Profitable banks may find it easier to meet these regulatory capital requirements without diluting existing shareholders through equity issuance.

Market Perception: Profitability positively affects how the market perceives a bank's financial health and stability. A strong profit track record can lead to higher stock prices and lower borrowing costs for the bank, making it easier and more cost-effective to raise capital through equity or debt instruments.

In summary, profitability can lead to a more equity-heavy capital structure for banks by reducing the need for external financing, attracting equity investors, and enhancing the bank's ability to service debt. However, banks also consider other factors such as risk, regulatory requirements, and market conditions when determining their optimal capital structure.

2.1.9 Inflation Rates

Inflation, representing the general escalation in prices of goods and services over time, impacts banks by eroding the real value of loans and deposits, thereby affecting their profitability and capital adequacy. High inflation necessitates banks to charge higher interest rates on loans to offset the impact of rising prices. On the other hand, low inflation can be more favorable for banks. To navigate these economic variables, banks carefully manage their capital structure to strike a balance between risk and profitability (Gitman, Juchau & Flanagan, 2015).In conclusion, these multifaceted aspects - growth, liquidity, firm size, interest rates, profitability, and inflation rates - intricately influence the capital structure of firms and banks, substantiating the need for astute management and decision-making to optimize their financial standing.

2.1.10 Gross Domestic Product (GDP)

Gross Domestic Product (GDP) represents the aggregate monetary worth of all goods and services generated within the geographic boundaries of a nation during a specific

timeframe. It stands as a pivotal gauge of a nation's economic well-being and advancement. A robust GDP ushers in augmented lending prospects and diminished credit risk, consequently exerting a favorable impact on a financial institution's profitability. Conversely, a feeble GDP can precipitate an upsurge in default rates, thereby casting a shadow over a financial institution's loan portfolio (Smith, 2000).

2.2 Theoretical Review

The Trade-Off Theory and the Pecking Order Theory have endured as recurrent themes within antecedent academic research and have proven to be eminently pertinent to the present study. This section serves to introduce the preeminent economic theories that govern the domain of capital structure research. These theories demonstrably lend themselves to a comprehensive elucidation of the management of capital structure in various international contexts. Hence, their appropriateness as foundational pillars for the present inquiry becomes apparent. The intent of this section is to succinctly encapsulate the key tenets extrapolated from these theories as they pertain to the ongoing study. The foremost theories underpinning this research are the Pecking-Order Theory and the Trade-Off Theory, which represent the principal contenders in the body of literature explicating capital structure (Mimouni *et al*., 2017).

2.2.1 Trade-Off Theory

2.2.1.1 Static Trade-Off Theory

The Static Trade-Off Theory is premised on the notion that corporations set their sights on a debt-to-value objective, diligently striving to approach it through incremental refinements. This objective embodies the firm's optimal debt ratio, effectively constituting a trade-off between the advantages and drawbacks of debt financing (Myers,

1984). However, this theory is contingent upon the assumption that there exist no adjustment costs associated with the continuous fine-tuning of the debt-to-value ratio (Myers, 1984). In this context, adjustment costs encompass administrative and labor expenditures linked to the identification and execution of fresh loans intended to recalibrate the debt-to-value ratio. Myers (1984) contends that these adjustment costs are ineluctable, thereby postulating the presence of temporal lags in the process of realigning the debt-to-value ratio with the optimum threshold. This viewpoint finds support from Leary and Roberts (2005), who affirm the existence of adjustment costs and aver that, on average, firms undertake periodic adjustments to their capital structures. Other researchers, such as Hovakimian *et al.* (2001), posit that the rate of adjustment in the debt-to-equity ratio hinges upon the interplay between the costs associated with straying from the optimal leverage and the expenses concomitant with its recalibration. This delineates a discernible trade-off paradigm. Cook and Tang (2010) have examined the pace of adjustment concerning macroeconomic conditions and have observed that the speed of adjustment is diminished during periods of economic adversity compared to favorable market conditions. The augmentation of leverage is linked with numerous costs, including the peril of bankruptcy. Although not traditionally characterized as a cost, Berk and DeMarzo (2020) contend that bankruptcy risk indeed constitutes a cost often overlooked in the idealized concept of the perfect capital market.

Furthermore, the contractual obligation stemming from debt payments exerts substantial pressure on corporations, potentially culminating in bankruptcy (Berk & DeMarzo, 2020). Augmented leverage also engenders higher risk, thereby influencing the cost of equity, which effectively offsets the positive impact derived from the lowered capital costs of debt relative to equity (Berk & DeMarzo, 2020). This proposition does not

purport to directly impact corporate value (Berk & DeMarzo, 2020), yet it merits consideration in light of the heightened costs borne due to increased leverage.

Ultimately, the discourse on adjustment costs has catalyzed the emergence of the Dynamic Trade-Off Theory.The Traditional Capital Structure Theory assumes a more focused perspective, centering on the optimal weighted average cost of capital (WACC). As elucidated by Chhapra *et al*. (2021), this theory emphasizes the equilibrium between equity and debt. According to Demirgüneş (2017), when the weighted average cost of capital attains its nadir, the corporate value reaches its zenith. A discernible similarity is discernible in relation to the preceding trade-off theories, underscoring the accentuation of a trade-off. The Traditional Capital Structure Theory examines the trade-off between higher and lower leverage to optimize the WACC and, concomitantly, the firm's value. In contrast, the Trade-Off Theory encompasses not only the trade-off intrinsic to the Traditional Capital Structure Theory but also a more extensive array of benefits and detriments entailed in augmenting debt, such as tax shields and bankruptcy costs, thus rendering it a more comprehensive theoretical framework (Chhapra *et al*., 2021).

2.2.1.2 Dynamic Trade-Off Theory

Fischer *et al.* (1989), in their seminal work titled "Dynamic Capital Structure Choice: Theory and Tests," have presented an evolution of the "Static Trade-Off Theory," as delineated in the preceding section. Their model, fundamentally, embraces a continuous temporal perspective, a face that the Static Trade-Off Theory fails to accommodate. The determinants governing the capital structure, as posited by Fischer *et al.* (1989), encompass the benefits and costs associated with debt, the risk-free interest rate, the expenses linked to attracting new capital to the firm, and the variability of assets. A

hallmark of this model lies in its allowance for the flexibility of the capital structure over time, acknowledging the optimal capital structure as a spectrum of values rather than a singular optimum (Fischer *et al.*, 1989).

Chhapra *et al.* (2021) expound the Dynamic Trade-Off Theory with the underlying notion that, technically, it underscores the concept that a firm's capital structure seldom aligns with the ideal at all times and is prone to deviations from the targeted or optimal threshold (Chhapra *et al.*, 2021). Dierker *et al*. (2019) delineate how corporations engage in recapitalization solely when it promises an economic advantage, i.e., when the costs of realignment are outweighed by the benefits derived. The Dynamic Trade-Off Theory, in theory, predicts a positive correlation between leverage ratios and profitability, assuming the absence of costs associated with the adjustment of the capital structure. However, in the presence of adjustment costs concerning capital structure, empirical investigations, as exemplified by Dierker *et al*. (2019), reveal a positive association between leverage ratios and profitability, referencing two pertinent studies (Hennessy & Whited, 2005; Strebulaey, 2007). These discordant findings introduce empirical complexities due to the ramifications tied to measurement and assumptions (Dierker *et al.*, 2019).

2.2.2 Pecking Order Theory

The Pecking Order Theory, as elucidated by Myers in 1984, offers a structured framework for comprehending the intricacies of corporate financial decision-making. This theory is predicated upon a hierarchical approach to debt financing determinations, wherein firms prioritize internal financing over external sources. The initial preference is for self-generated funds, with a secondary inclination towards debt issuance if the need arises (Myers, 1984). Notably, the theory does not advocate for a specific target debt-to-

value ratio, underlining the adaptability inherent in the decision-making process. Furthermore, the Pecking Order Theory posits that dividend payout ratios are adjusted in accordance with prevailing investment opportunities. To navigate challenges such as the rigidity of dividend policies and fluctuations in profitability, firms initially reduce their cash reserves or marketable securities portfolio (Myers, 1984). Only as a last resort, when no other viable alternatives exist, do firms resort to external financing. In such cases, the preference is for the issuance of the most secure form of securities (Myers, 1984).Myers (1984) introduces a critical dimension to the Pecking Order Theory by highlighting the issue of information asymmetry between investors and managers. Managers may possess insights into the net-present value (NPV) of investment opportunities and their potential organizational impact, while investors may not fully grasp this dynamic, leading to an imbalance in available information. Additionally, Myers (1984) develops a model that links a manager's perceived value of an investment opportunity with the associated administrative costs of external debt. This model underscores the theory's limitations, emphasizing that a reliance on internal financing, driven by asymmetric information and reluctance to utilize external sources, can potentially hinder firms from capitalizing on valuable investment prospects.

2.3 Empirical Review

2.3.1 Previous crisis and Covid 19 Pandemic

Almeida (2021) highlights the noteworthy alteration in corporate financial strategies witnessed in 2020 as an exceptional exemplification of practical "liquidity management." The COVID-19 pandemic has induced effects akin to those experienced during the financial crisis of 2007-2008, a circumstance referred to as a unique opportunity for natural experimentation by scholars like Mimouni *et al.* (2017) and D'Amato (2020). In

their examination of the implications on corporate capital structure, Homayoun *et al.* (2019) note that the 2007-2008 financial crisis engendered substantial market instability and exacerbated liquidity constraints within banks, thereby impeding companies' ability to procure available loan capital.Mimouni *et al.* (2017) also observe a proclivity among companies to adjust their leverage ratios at a comparatively slower pace during financial crises, conceivably reflecting the dwindling accessibility of loan capital. Furthermore, Mimouni *et al*. (2017) discern that different nations and industries respond divergently to crises, underscoring the imperative to assess these factors individually before considering their confluence. Homayoun *et al*. (2019) specifically acknowledge the adverse impact on Sweden, an export-reliant economy, during the 2007-2008 financial crisis. Statistics Sweden, as cited by Homayoun and colleagues (2019), reports a 17% decline in imports and exports between 2008 and 2009, prompting the inference that financial crises inevitably impinge on international trade and thereby necessitate a reevaluation of capital structures, especially for firms heavily dependent on foreign trade.Homayoun et al. (2019) further discern a tendency among firms to consider short-term debt as a substitute for tapping into "internal financial resources" in times of reduced profitability.

Homayoun *et al.* (2019) reference the prior study conducted by Carbó-Valverde *et al.* (2016), who assert that small and medium-sized enterprises (SMEs) typically escalate their demand for short-term debt during financial crises due to lenders' heightened conservatism in endorsing long-term debt packages. The findings of Homayoun *et al.* (2019) also unveil that when SMEs encounter amplified obstacles in accessing internally generated capital, they resort to more dynamic financing solutions.In summary, Mimouni

et al. (2017) contend that the 2008 financial crisis had a detrimental impact on corporate leverage within the Gulf Cooperation Council.

Similarly, Homayoun *et al.* (2019) ascertain that independent variables such as profitability and tangibility partially account for variations in corporate reliance on Short-Term Debt (STD) and Long-Term Debt (LTD). They establish that companies exhibited a significantly greater dependence on STD and LTD during 2008-09 compared to the period from 2010 to 2015. In contrast, D'Amato (2020) contends that Italian SMEs reduced their corporate leverage both during and after the 2008 financial crisis, ultimately mitigating their exposure to potential liquidity issues. These contradictory findings inherently pique curiosity and warrant further investigation (D'Amato, 2020).

2.3.2 Studies on Covid 19 Crisis

Studies on Covid 19 crisis Huang and Ye (2021) discuss the pandemic's direct impact on the sharp declines in the Dow Jones Industrial Average and the Australian ASX200 index. The authors reached the deduction that the economic downturns witnessed were a consequence of heightened public apprehension and the implementation of travel restrictions. In the context of effectively managing the COVID-19 pandemic, the research outcomes put forth by Huang and Ye (2021) highlight that firms with excessive leverage prior to the pandemic found themselves exposed to elevated risk levels. These results are in consonance with the findings of Ding *et al.* (2020), which posit that companies entering the pandemic with substantial liquid assets and unutilized lines of credit exhibited a more favorable stock price response compared to those starting from an opposite position. In the realm of the COVID-19 crisis,

Huang and Ye (2021) succinctly encapsulate a multitude of scholarly works that underscore how corporations with greater financial flexibility have experienced lesser adverse impacts from the crisis. Financial flexibility, as elucidated by Huang and Ye (2021), pertains to firms possessing a higher degree of cash reserves and reduced indebtedness. They argue that businesses endowed with enhanced financial adaptability may possess a greater "capacity" to secure debt during challenging circumstances, a notion that resonates logically.

Furthermore, Ding et al. (2020) unearthed that companies with a higher reliance on global supply networks were more susceptible to the ramifications of the COVID-19 pandemic, a vulnerability that could have been anticipated given the intricate nature of supply chains (Huang & Ye, 2021; Ding *et al.*, 2020).

However, Huang and Ye (2021) hypothesized that a low level of underlying debt allowed businesses to make use of this line of credit to make up for the short-term decline in immediate cash flow. Huang and Ye (2021) have made the insightful observation that firms with elevated levels of leverage faced pronounced adverse effects stemming from market volatility, while their counterparts with lower leverage exhibited a greater capacity to attenuate the impact of such market fluctuations. This revelation underscores the significance of leverage in navigating turbulent market conditions (Huang & Ye, 2021).

In a contemporaneous examination, Almeida (2021) delved into the ramifications of government intervention, with a particular focus on the response of the United States government to the "COVID-19 cash flow shock." Almeida (2021) astutely discerned that the management of liquidity assumed paramount importance in the context of surviving

the pandemic, with the demand for highly liquid assets attaining an unprecedented level. His comprehensive analysis further pinpointed that industries within the domains of travel, entertainment, and retail suffered the most severe repercussions during the pandemic (Almeida, 2021).

In light of these significant research findings and their implications none of the findings seeks to address how the pandemic has affected corporate capital structure in the Sub Saharan Africa specifically in Ghana, it is imperative to acknowledge that this study, within its unique context, aims to empirically investigate and present its findings pertaining to the transformative influence of the COVID-19 pandemic on the capital structure of the eight banks enumerated on the Ghana Stock Exchange in terms of their leverage and Equity. This study seeks to provide valuable insights into how the pandemic has reshaped the financial landscape of these specific financial institutions leverage and equity, thereby adding to the body of knowledge in this domain.

2.4 Capital Structure

Capital structure, as elucidated by Abor (2008), embodies the method by which a financial institution secures funding for its assets through a fusion of equity, debt, or hybrid financial instruments. It also encompasses the composite composition of diverse capital components employed by a corporate entity to underwrite its assets and operational activities. The capital structure of an enterprise exerts substantial influence on its risk profile, cost of capital, and fiscal performance. The determination of the capital structure and its ensuing optimization for risk exposure is a profoundly intricate facet of the financial performance of any bank. This complexity arises from the necessity that the capital structure decision must ultimately yield a favorable outcome with respect to the

enhancement of the investment value for various stakeholders, primarily equity investors, as posited by Watson and Head (2007). This is of great significance due to the heightened expectations of equity financiers regarding their returns on investment, encompassing augmented dividend payments and capital appreciation, in consonance with the insights of Sulaiman (2001).

For Ghana, an emerging economy, the country possesses substantial yet largely untapped reservoirs of human and natural resources. However, the primary impediment lies in the scarcity of capital for investment. Historically, Ghana has relied heavily on external sources of capital to fund its ventures. Nevertheless, a pivotal realization has emerged – for Ghana to make substantial strides in its economic development, it must place greater reliance on domestic investment resources. The principal incentives for most Ghanaian investors in long-term commitments lie in the anticipations of receiving dividends and accruing capital gains. Failing to meet these expectations would precipitate the divestiture of shares, consequently resulting in a decline in the company's stock valuation. The erosion of stock prices conveys a disheartening signal to potential investors, dissuading them from committing funds in the form of both equity and debt. This reaction would be exceedingly unfavorable for most companies, as the company's stock price serves as a barometer of its performance.

Consequently, in order to bolster investor confidence and perpetuate its viability, a corporation must strategically determine a capital structure that optimally safeguards shareholder wealth, in accordance with the seminal work of Modigliani and Miller (1958).The selection of investment financing strategies and their correlation with optimal risk exposure assumes paramount importance in the financial performance of every

banking institution. Within the domain of financial economics, an extensive body of literature has been dedicated to the scrupulous examination of the decision-making process surrounding capital structure. The fundamental financial objective of every corporate entity resides in the maximization of the wealth attributed to the company's extant proprietors. For publicly traded firms, this objective translates into the maximization of the per-share price of the company's common stock, in alignment with the insights offered by Booth *et al*. (2001).

2.4.1 Types of Capital.

Debt Capital: Debt capital, encompassing loans, bonds, and various debt instruments, serves as a financial resource that organizations utilize to support their operational needs. This form of capital involves fixed interest payments and a predetermined maturity date for principal repayment (Myers, 1984).

Equity Capital: Equity capital denotes the monetary assets accumulated through the issuance of company shares. It differs from debt capital in that it lacks a fixed repayment schedule or interest obligations, instead granting shareholders ownership stakes with prospects of capital appreciation and dividends (Myers, 1984).

Hybrid Securities: Hybrid securities encompass financial instruments incorporating characteristics of both debt and equity, such as convertible bonds that have the capacity to convert into equity shares at a later date (Myers, 1984)

2.4.2 Determinants of Capital Structure

2.4.2.1 Financial Leverage or Trading on Equity

Financial Leverage or Trading on Equity: Financial leverage or trading on equity pertains to the strategic use of long-term fixed-interest debt and preference share capital in

conjunction with equity share capital. It plays a substantial role in influencing shareholders' returns or earnings per share (Myers, 1984). By employing leverage, an organization can increase its earnings per share without necessitating a surge in owner investments, provided that the returns generated by debt-backed assets surpass the cost of the debt. Leverage is especially impactful when debt is employed due to the lower cost of debt compared to preference shares and the tax deductibility of interest payments. This warrants its prominence in shaping a company's capital structure (Myers, 1984).

2.4.2.2 Sales Growth and Stability

The capital structure of a company is notably influenced by the stability of its revenue growth. When sales are expected to remain relatively constant, an organization can issue more debt. A stable sales pattern ensures that the firm can meet its fixed obligations regarding interest payments and debt repayments, making it more inclined to utilize debt as a financing option (Myers, 1984). Additionally, the rate of sales growth plays a significant role in capital structure determinations (Myers, 1984).

2.4.2.3 Cost of Capital

The cost of capital represents the minimum anticipated return sought by the providers of capital. It depends on the level of risk assumed by investors, with shareholders accepting more risk than debt holders (Modigliani & Miller, 1958). A company's capital structure is geared toward minimizing the overall cost of capital, which requires an intricate analysis of the costs associated with various funding sources. Reducing the cost of capital is advantageous, and cheaper financing alternatives should be favored. The primary sources of funding, including equity share capital, preference share capital, and loan

capital, vary in terms of the risk borne by capital providers, consequently impacting the expected returns (Modigliani & Miller, 1958).

2.4.2.4 Risk

In crafting a company's capital structure, both business risk and financial risk must be taken into account (Modigliani & Miller, 1958). Business risk relates to the volatility of earnings before interest and taxes (EBIT), encompassing internal and external components. Internal business risk arises from factors such as product mix, raw material availability, and strategic management, which can impact a firm's operational efficiency. On the other hand, external business risk is influenced by factors beyond the company's control, such as shifts in the business cycle (Modigliani & Miller, 1958).

2.4.2.5 Cash Flow

Conserving financial resources represents a vital attribute of a robust capital structure. It is essential to clarify that conservation does not imply minimal or zero debt; rather, it pertains to a judicious assessment of the fixed charges incurred through debt or preference capital in relation to the company's cash-generating capacity. Fixed costs include interest, preferred stock dividends, and principal repayments. The magnitude of fixed charges grows when an enterprise employs substantial amounts of debt or preferred capital. Consequently, each time a company contemplates increasing its debt load, it must carefully appraise its anticipated future cash flows to meet these fixed commitments. This evaluation should encompass both interest payments and principal repayment. Compared to companies with inconsistent and limited cash generation capabilities, those demonstrating more substantial and consistent cash inflows can embrace a higher degree of debt in their capital structures. Financial debt, however, introduces a burden of fixed

charges due to the set intervals at which interest and principal must be serviced. Therefore, an organization must meticulously assess and foresee its future cash inflows when contemplating additional financing to ensure the coverage of fixed costs.

Furthermore, the nature of the industry and the company's size significantly influence the composition of its capital structure. Public utility companies, characterized by steady revenue streams, may leverage more debt to finance their operations. In contrast, firms facing profit volatility may lean more heavily on equity capital. The size of a company also shapes its accessibility to various funding sources. Smaller enterprises may encounter challenges securing long-term loans and, if successful, may face unfavorable terms and high interest rates.

Additionally, small business credit agreements often feature stringent restrictions, limiting the flexibility of their capital structures. Conversely, larger corporations enjoy more latitude in shaping their capital structures, encompassing the issuance of common and preferred shares, as well as borrowing on favorable terms. Accordingly, a corporation should tailor its capital structure to optimally harness the advantages offered by its size (Myers, 1984).

2.4.2.5 Control

When a company necessitates additional capital, management seeks to acquire it without relinquishing control. Issuing equity shares dilutes the control of existing shareholders. Consequently, alternative financing routes, such as fixed interest-bearing debt and preferred share capital, are pursued to preserve control. Debenture and preference shareholders do not possess voting rights, rendering debt financing a favorable option

from a control standpoint. However, an over-reliance on debt financing may introduce concerns related to stringent covenants imposed by lenders or funding providers, potentially leading to a loss of control through liquidation (Myers, 1984).

2.4.2.6 Flexibility

Capital structure flexibility pertains to an enterprise's capacity to adapt its capitalization and funding sources in response to evolving circumstances. A flexible capital structure enables a company to raise capital without undue complexity or cost when required for profitable investments. Additionally, it permits the redemption of debt or preference capital as necessitated by changing conditions. The company's financial plan must exhibit the adaptability to accommodate shifts in the capital structure, thereby optimizing the utilization of funds (Myers, 1984).

2.4.2.7 Investor Requirements

A crucial determinant of capital structure, investor requirements necessitate alignment with the demands of institutional and individual investors when employing debt financing. These investors can be categorized into the daring, cautious, and less cautious categories. It is imperative to cater to the preferences and risk tolerance of these diverse investor groups when shaping the capital structure (Myers, 1984).

2.4.2.8 Capital Market Conditions (Timing)

The prevailing state of the capital market, influenced by economic conditions, significantly impacts a company's capital structure decisions. During periods of economic downturn and market pessimism, issuing equity shares may not be the most favorable choice, as investors tend to prioritize safety. Capital market conditions exhibit volatility, fluctuating between bear and bull markets. Therefore, companies must

carefully evaluate market sentiment and timing when determining whether to raise funds through common shares or debt, adapting to the shifting financial landscape (Myers, 1984).

2.4.2.9 Marketability

Marketability pertains to the company's ability to market or sell specific securities within a specific timeframe, contingent on investor willingness. While it may not significantly impact the initial capital structure, it plays a pivotal role in selecting the ideal timing for security issuances. Market preferences can change, with debenture issuances favored at one moment and common share issuances at another. Consequently, companies must discern the opportune moments to raise capital through debt or equity based on shifting market sentiments and conditions (Myers, 1984).

2.4.2.10 Tangibility

Tangibility signifies the presence of tangible assets within a company's asset portfolio, encompassing physical, touchable assets such as buildings, inventory, and machinery. The tangibility ratio measures the proportion of tangible assets in relation to total assets. Tangibility is a critical factor in assessing a company's asset composition, risk profile, and the potential for liquidation during financial distress. It often serves as collateral for securing loans and can reduce financial risk. The decision to employ debt financing must account for inflation, as high inflation rates can diminish the value of debt repayment. In response, creditors may demand higher interest rates to offset inflation's eroding effect on the debt's value. Inflation, being a primary driver of interest rates, must be considered when formulating financing decisions (Myers, 1984).

2.4.2.11 Floatation Fees

The imposition of fees associated with capital acquisition is a pivotal consideration in financial matters. These charges arise when funds are procured, with the prevailing wisdom suggesting that the cost of floating debt tends to be more economical than that of equity issuance. This cost-efficient characteristic often lures enterprises to opt for debt issuance over the issuance of common shares. However, it is important to emphasize that floatation costs come into play when the retention of profits leads to the augmentation of the owner's capital. Within the broader context of a company's capital structure, floatation costs are generally not a predominant determinant, unless pertaining to smaller firms (Myers & Majluf, 1984).

2.4.2.12 Legal Considerations

In the domain of financial management, a comprehensive assessment of proposed capital structures necessitates a judicious consideration of the prevalent legal and regulatory framework. For instance, strict adherence to Securities and Exchange Commission (SEC) standards is imperative when the redemption period of a debenture exceeds 18 months. Furthermore, the endeavor to raise capital via the capital market requires SEC approval, a requirement not applicable when obtaining loans from financial institutions. Therefore, when delineating and establishing the capital structure of a firm, it is incumbent to meticulously account for these regulatory provisions and others (Ross *et al.,* 2017).

2.5 Covid 19 and Capital Structure

The inception of the Covid-19 pandemic towards the end of 2019 swiftly precipitated global ramifications. In a bid to mitigate the adverse consequences of the pandemic, measures were undertaken, including the restriction of human mobility and the closure

of educational institutions. These actions, in turn, propagated disruptions along the supply chains across a multitude of industries. In response to these exceptional circumstances, central banks orchestrated a reduction in interest rates and the infusion of liquidity into the global financial markets, as substantiated by the Organization for Economic Co-operation and Development (OECD, 2021).Scholarly discourse pertaining to the influence of uncertain times on corporate leverage is marked by nuanced perspectives. Acharya and Steffen (2020), Halling *et al.* (2020), Li *et al.* (2020), and Gopalakrishnan *et al*. (2022) contend that crises and periods of heightened uncertainty stimulate an augmented demand for debt financing. In contrast, Boileau and Moyen (2016), Alfaro *et al.* (2018), and Duong *et al*. (2020) posit that in times of elevated uncertainty, firms exhibit a preference for bolstering cash reserves through heightened leverage. Concomitantly, financial theory posits that escalated risk and uncertainty have the potential to diminish the availability of loans offered by financial intermediaries. This hesitancy on the part of banks to raise capital engenders heightened risk premiums and more stringent risk appetites, in alignment with the research of Pastor and Veronesi (2013). Furthermore, the supply of debt is undermined due to the concomitant rise in provisions for losses and non-performing loans, as underscored by Beck and Keil (2022). The adverse implications of heightened uncertainty and crises are not uniform but exhibit sector-specific variations, a fact corroborated by Alfaro et al. (2020), Baek *et al*. (2020), and Liu *et al.* (2021).It is essential to underscore that the Covid-19 era departs from the conventional milieu of financial crises, primarily attributed to the substantial fiscal and monetary support extended to corporate entities. Noteworthy examples include the Federal Reserve's corporate bond purchase program, which significantly attenuated the default risk premium of firms in the United States, as elucidated by Nozawa and Qiu (2021). In Turkey, the advent of the Financial Restructuring Scheme, complemented by

tax relief measures and the facilitation of low-cost loans, may have similarly contributed to the mitigation of risk premiums for firms (Nozawa & Qiu, 2021).

2.6 Conceptual Framework

This section serves to elucidate the conceptual framework underpinning the study. Drawing on Crosswell (2014), a conceptual framework is posited as a compendium of assumptions, values, concepts, and practices that collectively form a prism through which reality is comprehended. It is imperative to underscore that a robust conceptual framework should be firmly anchored in the existing body of literature, serving as a scaffolding for apprehending the research problem, fashioning research inquiries, and deciphering research findings (Crosswell, 2014).

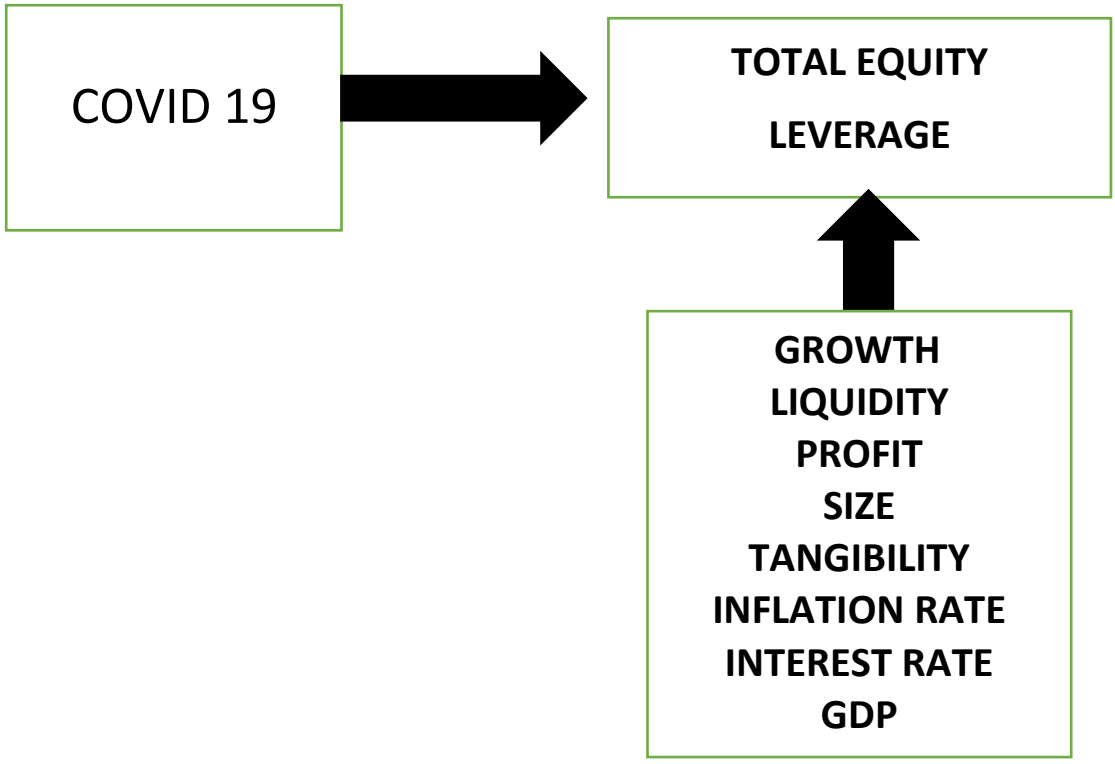

Figure 2.1: Conceptual Framework

Source: Researcher's Construct (2023)

CHAPTER THREE

METHODOLOGY OF THE STUDY

3.0 Introduction

The present chapter serves as an exposition of the methodologies employed for data acquisition pertaining to the subject of inquiry. It encompasses discussions on the research design, the delineation of the study's population, the methodology for selecting a sample and sampling technique, data collection instruments, procedures for data collection, and the design and execution of interventions.

3.1 Research Design

In accordance with the definition proffered by Polit and Beck (2004), a research design constitutes a comprehensive scheme for procuring solutions to the queries investigated and for addressing the challenges encountered during the course of the research endeavor. It functions as a strategic framework specifying the approach to be employed in gathering and analyzing data pertaining to a particular issue within a given population. This study aligns itself with the quantitative research design, consistent with its research objectives, and employs causal models to scrutinize the relationships between independent and dependent variables in pursuit of its research objectives. The research design adopted for this study is the quantitative approach because it uses values and data of the various listed banks in Ghana in undertaking this study.

3.2 Population of the Study

In keeping with the delineation by Polit and Beck (2004), a population is characterized as the entire collection of cases that satisfy a specified set of criteria. The target population, as Polit and Beck (2004) elucidate, comprises the cases around which the

researcher seeks to make generalizations. The subject population of this research comprises the eight (8) banks that are listed on the Ghana Stock Exchange.

3.3 Sample and Sampling Technique

The sample size is the assembly of elements that constitute the overall population. The purposive sampling technique was adopted for this study, with the aim of selecting eight (8) banks possessing financial data during the pre-Covid-19, Covid-19, and post-Covid-19 periods in Ghana.

3.4 Data Type and Justification

This research will rely on secondary data sourced from the annual reports of the banks listed on the Ghana Stock Exchange. The study encompasses six years, spanning from 2010 to 2022, involving the twenty-eight (8) banks, resulting in a total of 104 observations. This time frame enables the investigation of the pandemic's impact, commencing from its onset in Ghana in 2020. The collected data will be initially coded using Microsoft Excel and subsequently transferred to STATA for the ensuing analysis.

3.5 Method of Data Analysis

The study will scrutinize data derived from the financial statements of the eight (8) selected banks listed on the Ghana Stock Exchange and provide comprehensive discussions to fulfill the research's primary objectives. To explore these associations, both descriptive and inferential statistics will be utilized. Descriptive statistics will encompass frequencies, percentages, means, and standard deviations, while inferential statistics will involve correlation and regression analysis.

3.6 Model Specification

The principal objective of the research is to assess the impact of Covid-19 on the capital structure of commercial banks listed on the Ghana Stock Exchange.

$$Capital\ structure_{it} = \beta_0 + \beta_1 pandemic_{it} + \beta_2 profit_{it} + \beta_3 liquidity_{it} + \beta_4 Growth_{it} + \beta_5 size_{it} + \beta_6 tangibility_{it} + \beta_7 GDP_{it} + \beta_8 Int.Rate_{it} + \beta_9 Inflation\ rate_{it} + \mathcal{E}_{it} \ldots\ldots\ldots\ldots \textbf{Equation (1)}$$

This continues to where the equation is split out into two where each equations contains a one main capital structure determinant variable acting as a dependent variable. These capital structure element acting as a dependent variables, these are **Leverage** and **Equity**. These two determinants are well supported by the two main capital structure theories namely the **Trade-Off theory and the Pecking Order theory**. The leverage as dependent variable is supported by the **trade-off theory**. This theory suggests that there is an optimal capital structure for a company where the benefits of using debt (interest tax shields, lower cost of capital) are balanced against the costs (financial distress, bankruptcy risk).The **leverage equation** is shown below as equation (2)

$$leverage_{it} = \beta_0 + \beta_1 pandemic_{it} + \beta_2 profit_{it} + \beta_3 liquidity_{it} + \beta_4 Growth_{it} + \beta_5 size_{it} + \beta_6 tangibility_{it} + \beta_7 GDP_{it} + \beta_8 Int.Rate_{it} + \beta_9 Inflation\ rate_{it} + \mathcal{E}_{it} \ldots\ldots\ldots\ldots \textbf{Equation (2)}$$

The Equity equation which is also supported by both the **trade-off theory** and **pecking order theory** also posits that companies prefer internal financing (retained earnings) first, then debt, and only as a last resort, equity issuance. It doesn't inherently support both leverage and equity as equals in the capital structure.

$$Equity_{it} = \beta_0 + \beta_1 pandemic_{it} + \beta_2 profit_{it} + \beta_3 liquidity_{it} + \beta_4 Growth_{it} + \beta_5 size_{it} + \beta_6 tangibility_{it} + \beta_7 GDP_{it} + \beta_8 Int.Rate_{it} + \beta_9 Inflation\ rate_{it} + \mathcal{E}_{it} \ldots\ldots\ldots\ldots\ldots \textbf{Equation (3)}$$

During crisis and pandemic firms either makes decisions by either choosing the appropriate capital financing option. When this happens the main two capital structures determinant, (leverage and equity) affects each other inversely. Due to this leverage can have an effect on equity so as equity can also effect leverage. The final leverage model (5th model) estimates the impact of Covid -19 on listed banks leverage, where leverage act as a dependent variable by removing tangibility in the equation, Covid 19 pandemic as the main independent variable and a dummy whereas bank size, liquidity, profit, growth, total equity, GDP, interest rates and inflation rates act as control variables plus an error term. This is included the equation where the leverage equation changes to become,

$$leverage_{it} = \beta_0 + \beta_1 pandemic_{it} + \beta_2 profit_{it} + \beta_3 liquidity_{it} + \beta_4 Growth_{it} + \beta_5 size_{it} + \beta_6 GDP_{it} + \beta_7 Int.Rate_{it} + \beta_8 Inflation\ rate_{it} + \beta_9 Equity_{it} + \mathcal{E}_{it} \ldots\ldots\ldots\ldots\ldots \textbf{Equation (4)}$$

The equity equation is also modified by the inclusion of leverage and tangibility acting as an independent variable or having a bearing effect on equity during pandemic and financial crisis. The final model equity model (6th model) estimates the impact of Covid -19 pandemic on listed banks total equity, where total equity act as a dependent variable in the equation, covid-19 pandemic as the main independent variable and a dummy

whereas bank size, liquidity, growth, leverage, profit, and other macro-economic factors such as GDP, inflation rates and interest rates act as control variables plus an error term .This is shown below

$$Equity_{it} = \beta_0 + \beta_1 pandemic_{it} + \beta_2 profit_{it} + \beta_3 liquidity_{it} + \beta_4 Growth_{it} + \beta_5 size_{it} + \beta_6 leverage_{it} + \beta_7 GDP_{it} + \beta_8 Int.Rate_{it} + \beta_9 Inflation\ rate_{it} + \beta_{10} tangibility_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots \textbf{Equation (5)}$$

3.7 Measurement of Variables

The measurement of the variables and their definition as well as some control variables that were sampled from previous studies as potential determinants of banks and financial institutions capital structure are shown below.

Table. 3.1 Measurement of Variables

VARIABLES	MEASUREMENT OF VARAIABLES
Covid-19 Pandemic	Dummy,1 for the covid-19 pandemic year,0 otherwise
Leverage	Total Debt divided by Total Asset
Liquidity	Current Assets divided by Current Liability
Tangibility	Net fixed asset divided by total assets
Profit(Return On Equity)	Net profit after tax divided by total Equity
Growth	Change in Percentage of Revenue
Equity Ratio	Total Equity divided by Total Assets
Bank Size	Natural Logarithm of Total Assets
Gross Domestic Product(GDP)	Annual GDP rate for the year
Inflation Rate	Annual Inflation rate for the year
Interest Rate	Annual bank of Ghana Interest rate for the year

Source: Adapted from Past Studies- Christopher et al (2022).

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF RESULTS

4.0 Introduction

This chapter features data from the financial statements of the eight (8) selected banks listed on the Ghana Stock Exchange and provide discussions to help achieve the study's key goals. In order to determine these associations, the study used both descriptive and inferential statistics. Frequencies, percentages, mean, and standard deviation were used as descriptive statistics, whereas correlation and regression analysis were used as inferential statistics.

4.1 Descriptive Analysis

The descriptive statistics are presented in Tables 4.1. From table 4.1, the average value of the **leverage** measure was 5.701 and a standard deviation of 2.272 away from the mean. Also, a value of 0.6 and 16 for the minimum and maximum values attained respectively. Also, a mean value of 0.160 and a standard deviation of 0.598 away from the mean are shown in the summary description for

Equity also has 0.1, and 0.4 minimum and highest values respectively. On the other hand, **firm size** showed a mean value of 15.353 and a standard deviation of 1.94 away from the mean. Its minimum and maximum attained are 12.2 and 22.6 respectively. Additionally, for **liquidity**, a mean value of 72.67 and a standard deviation of 40.563 away from the mean. Its minimum and maximum attained and 9.8 and 234.6 respectively the **growth** indicator has a mean value of 27.261 and a standard deviation of 40.995 It reached -7 and 397.9 as its minimum and maximum values, respectively. Last but not least, there was a mean value of 17.740 and a standard deviation of 22.915 for **profit**. Its least and highest attained are in order, -133.7 and 49. **Interest rate** has a mean and

standard deviation of 17.137 and 5.872, it also reached 9.3 and 30 as its minimum and maximum values. Also **Gross Domestic Product** recorded a mean and standard deviation of 5.952 and 15.611, a minimum and maximum value of -14.87 and 48.53 respectively. Lastly the **Inflation Rate** recorded a mean and standard deviation of 13.146 and 6.137.its lowest and highest values are 7.14 and 31.26 respectively.

Table 4.1: Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
Leverage	104	5.701923	2.272844	.6	16
Equity	104	.1605769	.0598027	.1	.4
Size	104	15.35385	1.949953	12.2	22.6
Growth	104	27.26154	40.99541	-7	397.9
Tangibility	104	.5111538	1.953061	.01	9.75
Liquidity	104	72.67019	40.56315	9.8	234.6
Profit	104	17.74096	22.91532	-133.7	49
Pandemic	104	.2307692	.4233654	0	1
Int. Rate	104	17.13769	5.872999	9.3	30
Inf. Rate	104	13.14692	6.137796	7.14	31.26
Gdp	104	5.952308	15.61181	-14.87	48.53

Source: Researcher's field work (2023)

4.2 Correlation Analysis

Covariance is a statistic that indicates how closely two variables are related. When two variables have a positive covariance, they frequently exhibit the same high or low values. If the covariance is negative, the tendency is for the other variable to be low while the first is high. Covariance measures the direction of a link between two variables, whereas correlation assesses its strength. When the variables move in the same direction, correlation and covariance are positive; when they move in opposing directions, they are

negative. A correlation coefficient, on the other hand, must always be between -1 and +1, with extreme values suggesting a strong association. Table 4.2 presents the pairwise correlation coefficients.

From table 4.2, **leverage** has a relationship with both **total equity**, **growth**, **profit and inflation rate**, (however, it shows a very strong relationship with **total equity** as expected. Also, on the other hand, it shows positive association with **inflation rate** and a negative association the variables (i.e. **Profitability and growth**). Since financial **leverage** is the outcome of using borrowed money as a source of funding when making investments to increase a company's asset base and produce returns on risk capital and **total equity** involves the repayment of such debts to arrive at net shareholder's equity, this relationship is expected well. The level of debt a company utilizes to finance its assets is another definition of leverage.

On the other hand, **total equity**, the second dependent variable in this thesis which reflects the amount of money that would be repaid to a company's shareholders if all assets were liquidated and all debt was paid off in the event of liquidation, shows a negative association with only **leverage** expected. It implies that as the banks' **leverage** increases, this will elicit an opposite effect on **total equity**. However, there is a stronger association between **total equity** and **leverage**. T**otal equity** shows positive association **growth**, **bank size** and **growth**.

Table 4.2 Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) LEVERAGE	1.000									
(2) PANDEMIC	-0.083	1.000								
(3) EQUITY	-0.638	0.094	1.000							
(4) SIZE	0.066	0.373	-0.077	1.000						
(5) LIQUIDITY	0.042	0.498	0.009	0.262	1.000					
(6) GROWTH	-0.199	-0.122	0.024	-0.170	-0.133	1.000				
(7) PROFIT	-0.427	0.028	0.056	-0.090	-0.270	0.192	1.000			
(8) d2intrate	-0.056	0.091	0.035	-0.041	-0.032	0.220	0.198	1.000		
(9) d2gdp	-0.090	0.067	0.080	-0.038	0.070	-0.144	-0.035	-0.539	1.000	
(10) INFRATE	0.316	-0.369	-0.252	0.134	-0.041	-0.022	-0.471	-0.165	-0.150	1.000

Source: Researcher's field work (2023)

4.3 Pre and Post Analysis

Objective 1 was achieved using trend analysis. Figures 4.1 and 4.2 present results of the trend analysis. From Figure 4.1, leverage or debt as a dependent variables starts or takes off at a normal level, a slight increment and at a short period starts to fall .This can be seen from the years around 2010 to 2012 which was a pre pandemic era.it continues with a stable trend across these period 2013 to 2015.A Sharp rise in debt or leverage also takes on from 2016 and peaks at 2017, it starts to fall in 2018 by stabilizing from 2019 to 2020 where in 2020 Covid 19 pandemic started impacting the country. Sharp rise in debt started from 2021 where the pandemic impacted the country economically, this denotes that firms and corporate institutions resorted more to leverage financing during this era and are prone to more risk.

In summary, a rise in leverage during a pandemic or crisis is generally a cause for concern. It indicates increased financial risk, potential capital adequacy issues, and liquidity challenges, all of which can have negative effects on the institution's stability, operations, and its ability to support economic recovery. This supports the trade – off theory and they were consistent with previous research (Acharya and Steffen, 2020; Halling *et al.,* 2020; Li *et al.,* 2020; Gopalakrishnan *et al.,* 2022).

From figure 4.2 Equity as a dependent variables starts by falling from 2010 to 2012, it also increases at a short period and peak in the year 2013 where all these years are pre pandemic years. The Equity of these firms or banks starts to fall again from 2014 to 2015 where at the end of 2015 it begins to takes a stabilizing trend to 2015 to 2017 .It also takes a Sharp rise from the end of 2017 year and peaks at 2018, In 2018 it starts by taking a normal level by stabilizing till the end of 2019 where in 2020 Covid 19 pandemic

started impacting the country. A Sharp rise in Equity can be seen from 2020 and stabilized at the end of 2020, but 2021 the Equity determinant started falling drastically in 2022, where the year 2022 was a post covid 19 pandemic era. This denotes that firms and corporate institutions resorted more to leverage financing during this era (2021-2022). This supports the trade – off theory.

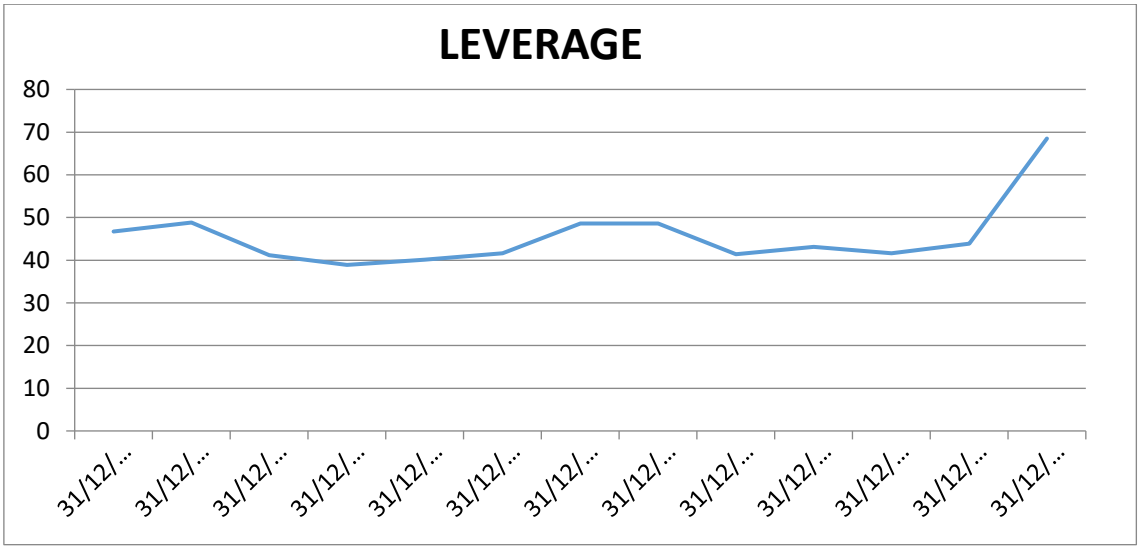

Figure. 4.1 Pre and Post Analysis of Leverage and Covid 19 Pandemic

Source: Field Work (2023)

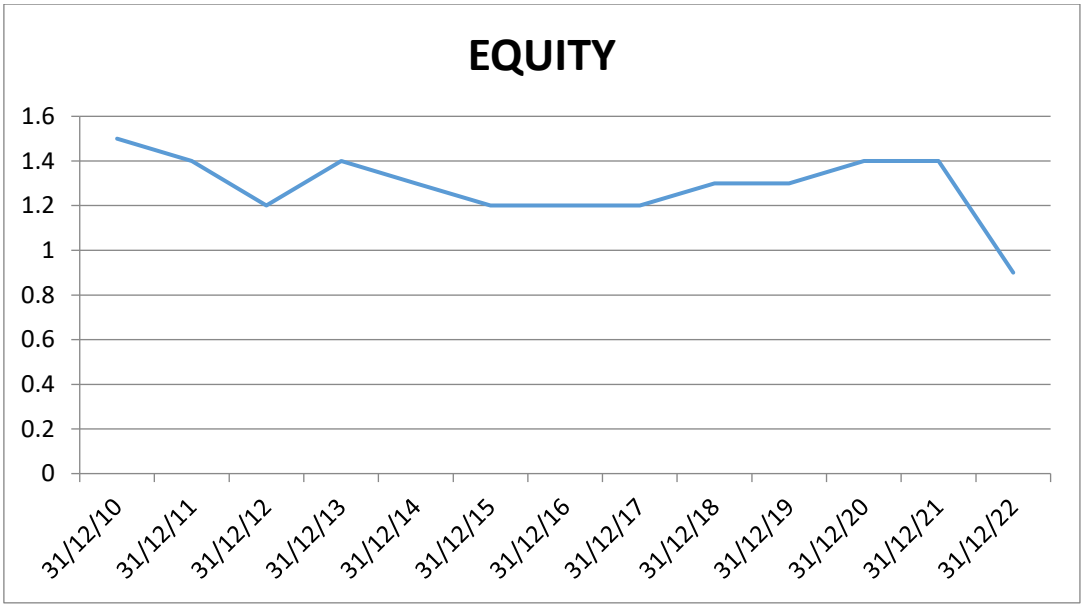

Figure 4.2 Pre and Post Analysis of Equity and Covid 19 Pandemic.

Source: Field Work (2023)

4.4 Panel Regression Models

4.4.1 COVID 19 Pandemic and Leverage

Table 4.3 Hausman Test - Leverage

Test period random effects			
Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Period random	2.426851	4	0.6578

Since the p-value from table 4.5 is greater than .05, implying no statistical significance, we accept the null hypothesis. Hence, random-effect model is appropriate in this instance of the panel regression for banks' **leverage**. In the regression analysis, the main dependent variable is Leverage, and the main independent variable is the Covid-19 pandemic. It can be deduced from table 4.3 and reading of the adjusted R-squared value that, this model with leverage and the control variables can account for about 57.3% of the variance in total equity of the listed banks.Covid-19 Pandemic: The p-value for Covid-19 is 0.548, and the coefficients for the variables are as follows:Covid-19: Coefficient = 0.282, p-value = 0.548Equity: Coefficient = -20.219, p-value = 0Growth: Coefficient = -0.008, p-value = 0.046Profit: Coefficient = -0.04, p-value = 0, Size: Coefficient = -0.019, p-value = 0.829Liquidity: Coefficient = 0.034, p-value = 0.357Interest Rate: Coefficient = -0.002, p-value = 0.521; GDP: Coefficient = 0.017, p-value = 0.589 inflation Rate: Coefficient = 0.017, p-value = 0.622

Recall from chapter three the equation for leverage

$$Leverage_{it} = \beta_0 + \beta_1\, pandemic + \beta_2\, Banksize_{it} + \beta_3\, Liquidity_{it} +$$

$$\beta_4 Equity_{it} + \beta_5 Growth_{it} + \beta_6 Profit_{it} + \beta_7 Gdp_{it} + \beta_8 Inflation\ Rate_{it} +$$

$$\beta_9 Interest\ Rate_{it} + \epsilon_{it} \quad \text{Equation}\ldots\ldots\ldots\ldots\ldots (5)$$

Table 4.4 Regression results

LEVERAGE	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
PANDEMIC	.282	.47	0.60	.548	-.639	1.204	
EQUITY	-20.219	3.311	-6.11	0	-26.71	-13.729	***
SIZE	-.019	.09	-0.22	.829	-.195	.156	
LIQUIDITY	-.004	.005	-0.92	.357	-.013	.005	
GROWTH	-.008	.004	-2.00	.046	-.015	0	**
PROFIT	-.04	.008	-5.00	0	-.055	-.024	***
d2intrate	.034	.053	0.64	.521	-.07	.138	
d2gdp	-.002	.004	-0.54	.589	-.01	.006	
INFRATE	.017	.034	0.49	.622	-.05	.083	
Constant	10.008	1.545	6.48	0	6.98	13.036	***

Mean dependent var	5.653	SD dependent var	2.104
Overall r-squared	0.573	Number of obs	88
Chi-square	104.729	Prob > chi2	0.000
R-squared within	0.582	R-squared between	0.642

**** p<.01, ** p<.05, * p<.1*

Source: Researcher's Field Work (2023)

4.4.2 Covid-19 Pandemic and Equity

Table 4.5 Hausman Test – Total Equity

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	5.663754	4	0.2257

Since the p-value from table 4.7 is greater than .05, implying no statistical significance, we accept the null hypothesis. Hence, random-effect model is appropriate in this instance of the panel regression for **total equity**

In this regression analysis, the main dependent variable is Equity, and the main independent variable is the Covid-19 pandemic. The p-value for Covid-19 is 0.446, and the coefficients for the variables are as follows:Covid-19: Coefficient = 0.012, p-value = 0.446Leverage: Coefficient = -0.02, p-value = 0Size: Coefficient = 0, p-value = 0.974Growth: Coefficient = 0, p-value = 0.398Liquidity: Coefficient = 0, p-value = 0.605Profit: Coefficient = -0.001, p-value = 0Interest Rate: Coefficient = -0.001, p-value = 0.459GDP: Coefficient = 0, p-value = 0.26Tangibility: Coefficient = 0.002, p-value = 0.409 Inflation Rate: Coefficient = -0.001, p-value = 0.424 It can be deduced from table 4.4 and reading of the adjusted R-squared value that, this model with Equity and the control variables can account for around 51.4% of the variance in total equity of the listed banks Covid-19 Pandemic. The coefficient of 0.012 indicates that, for each unit change in Covid-19, there is a small change in Equity. However, the p-value of 0.446 suggests that this relationship is not statistically significant in predicting changes in Equity. This means that the impact of Covid-19 on Equity is not statistically supported by the data.

Leverage: Leverage has a negative coefficient of -0.02 with a p-value of 0, which implies that it has a significant impact on Equity. A decrease in Leverage is associated with a decrease in Equity.

Size, Growth, Liquidity, GDP, and Tangibility: These variables have coefficients of 0, suggesting they do not have a direct impact on Equity in this model. The p-values for Size, Growth, Liquidity, and GDP indicate that these variables are not statistically significant in explaining changes in Equity.

Tangibility has a small positive coefficient but is not statistically significant. Profit and Interest Rate: **Profit** has a negative coefficient of -0.001, **and Interest Rate** has a coefficient of -0.001, both with p-values of 0. These variables are statistically significant and negatively associated with Equity, implying that a decrease in Profit and an increase in Interest Rate are associated with a decrease in Equity. **Inflation Rate:** Inflation Rate has a negative coefficient of -0.001 with a p-value of 0.424, suggesting it is not a strong predictor of Equity in this model.

In summary, in this analysis, Covid-19 has a small coefficient and is not statistically significant in explaining Equity. **Leverage, Profit, and Interest Rate are statistically significant predictors of Equity**. Whiles Size**, Growth, Liquidity, GDP, Tangibility, and Inflation Rate** do not appear to have a strong direct impact on Equity in this model. The negative relationship between total equity and business leverage is consistent with previous research (Zhou et al., 2021). The coefficient of 0.282 indicates that, for each unit change in Covid-19, there is a 0.282 unit change in Leverage. However, the p-value of 0.548 suggests that this relationship is not statistically significant in predicting changes in Leverage. This means that, while there is an association, it's not strong enough to be considered significant in this analysis. It also suggests that, at least in this analysis,

variations in Leverage are not well explained by the presence or impact of the pandemic. Liquidity has a p-value of 0.357, suggesting that it is not highly significant in predicting Leverage. **Interest Rate**: Interest Rate has a p-value of 0.521, indicating that it is not a statistically significant predictor of Leverage. **GDP:** GDP has a p-value of 0.589, suggesting that it is not statistically significant in predicting Leverage. Inflation Rate: **Inflation Rate has** a p-value of 0.622, indicating that it is not highly significant as a predictor of Leverage

Equity: Equity has a very large negative coefficient of -20.219 with a p-value of 0, which suggests that it has a substantial impact on Leverage. A decrease in Equity is associated with a significant decrease in Leverage.

Growth: Growth has a small negative coefficient of -0.008 which is also statistically significant but to a lesser degree with a p-value of 0.046. This suggests that Growth is relevant in predicting Leverage, but its effect might be somewhat weaker compared to Equity and Profit. Size, Liquidity, Interest Rate, GDP, and Inflation Rate do not appear to be strong predictors of Leverage in this model, as their p-values are above the common significance level of 0.05.These findings helps to understand which variables have the most influence on Leverage in this specific context.

Profit: Profit has a negative coefficient of -0.04 with a p-value of 0, making it a highly significant predictor of Leverage. A decrease in Profit is associated with a decrease in Leverage. Size, Liquidity, Interest Rate, GDP, and Inflation Rate. These variables have coefficients and p-values that suggest they are not strong predictors of Leverage in this model**. Size, Interest Rate, and Inflation Rate** have coefficients close to zero, indicating limited impact.

In summary, in this analysis Covid-19 has a positive coefficient but is not statistically significant in explaining Leverage. Equity and Profit are highly significant predictors, with substantial negative impacts on Leverage. Growth is statistically significant but has a small effect. Size, Liquidity, Interest Rate, GDP, and Inflation Rate do not appear to have a strong impact on Leverage in this model.

NB: The above section addresses the study research objective two with respect to **equity**.

$$Equity_{it}=\beta_0 + \beta_1 Pandemic_{it} + \beta_2 Banksize_{it} + \beta_3 Liquidity_{it} + \beta_4 Growth_{it} + \beta_5 leverage + \beta_6 Profit_{it} + \beta_7 Gdp_{it} + \beta_8 Inflation\ Rate_{it} + \beta_9 Interest\ Rate_{it} + \beta_{10} Tangibility + \varepsilon_{it}$$ Equation…….. (6)

Table 4.6 Regression Results

EQUITY	**Coef.**	**St.Err.**	**t-value**	**p-value**	**[95% Conf**	**Interval]**	**Sig**
PANDEMIC	.012	.016	0.76	.446	-.02	.044	
LEVERAGE	-.02	.002	-8.91	0	-.024	-.015	***
SIZE	0	.003	-0.03	.974	-.006	.006	
GROWTH	0	0	-0.85	.398	0	0	
LIQUIDITY	0	0	-0.52	.605	0	0	
PROFIT	-.001	0	-4.01	0	-.002	-.001	***
INTRATE	-.001	.001	-0.74	.459	-.004	.002	
GDP	0	0	1.13	.26	0	.001	
TANGIBILITY	.002	.002	0.82	.409	-.003	.007	
INFRATE	-.001	.001	-0.80	.424	-.003	.001	
Constant	.324	.042	7.68	0	.241	.407	***
Mean dependent var	0.161		SD dependent var	0.060			
Overall r-squared	0.514		Number of obs	104			
Chi-square	94.736		Prob > chi2	0.000			
R-squared within	0.401		R-squared between	0.920			

**** p<.01, ** p<.05, * p<.1*

Source: Field Work (2023)

4.5 Mitigating the Effects of the COVID 19 Pandemic on Capital Structure

To address the last objective of the study, the researcher provided general strategies to mitigating the effects of a pandemic on the capital structure of banks since it is crucial to maintaining financial stability. While the researcher can provide general strategies, specific references and citations cannot be provided. Here are some suggested ways to mitigate the impact:

Stress Testing and Scenario Analysis: Conduct regular stress tests and scenario analyses to assess the potential impact of economic downturns, including pandemics, on a bank's capital structure. This helps identify vulnerabilities and plan accordingly.

Capital Buffers: Maintain capital buffers above regulatory minimums to absorb unexpected losses during crises. Adequate capital cushions enhance a bank's resilience.

Proactive Risk Management: Strengthen risk management practices by closely monitoring credit, market, and operational risks. Effective risk management can prevent significant capital erosion.

Loan Portfolio Diversification: Diversify loan portfolios to reduce concentration risk. Avoid overexposure to industries severely affected by pandemics, such as hospitality or travel.

Credit Risk Assessment: Enhance credit risk assessment processes to identify deteriorating credit quality early. Implement loan forbearance or modification programs when necessary to support borrowers in distress.

Liquidity Management: Maintain ample liquidity reserves to meet withdrawal demands and operational needs during periods of financial stress. Cost Management: Implement cost containment measures to reduce non-essential expenses without compromising the quality of service.

Regulatory Guidance Compliance: Stay compliant with regulatory guidance related to capital and liquidity requirements during economic crises.

Government Support Programs: Explore government support programs, such as central bank lending facilities or loan guarantee programs, to bolster liquidity and capital positions.

Communication with Stakeholders: Maintain transparent communication with regulators, investors, and depositors to instill confidence in the bank's financial stability.

Capital Raising: Consider raising capital through various means, including issuing new shares or convertible bonds, if necessary, to fortify the capital structure.

4.6 Summary of Discussions

The results for both model 1 (for leverage) and model 2 (for total equity) shows statistical significance with adjusted R-squared values of 57.3% and 51.4% respectively. From the test results, the COVID-19 dummy results are negative and not statistically significant at 5%. The outcome, which has a positive sign, is comparable to that Christopher et al (2022). Essentially, the COVID-19 situation has impacted corporate leverage badly and encouraged businesses to take on greater leverage. A similar effect is seen with its impact on total equity. On the other hand, utilizing this understanding of earlier academic studies, it may be claimed that the study's firms showed signs of possibly being overleveraged before the COVID-19 epidemic. This logic is predicated on the notion that businesses with higher levels of leverage are already more prone to risk. Favorably, our findings are consistent with previous research (Acharya and Steffen, 2020; Halling et al., 2020; Li et al., 2020; Gopalakrishnan et al., 2022). This study also shows that the leverage of financially challenged banks grew quickly after the pandemic spread, despite the fact that there is no statistically significant change in firm leverage on average. We

see an increase in leverage during the pandemic period for the entire sample in the specified term. On the other hand, total equity of the financial institutions experienced a sharp decline around the covid-19 crisis as shown clearly in the cross-sectional analysis of the graphs. These patterns can be clearly discerned from fig. 2 and 3 above. It is discovered that leverage and profit have a significant effect on equity or capital structure of banks. However, in general, if a bank uses leverage to increase its profit it can also increase the risk insolvency. The use of leverage can magnify the impact of losses, which can lead to a decline in equity value and reduction in value of the company.

According to Antoniou et al. (2008), business profitability increases with a decrease in the leverage ratio for nonfinancial firms. Bank profitability is found to have a negative impact on bank leverage, which is consistent with earlier findings. Schepens (2016) discovers that tax plays a substantial impact in bank capital structures, and that reducing the tax advantage of debt results in higher capital ratios. In the study group, profitability is unmistakably inversely correlated with leverage. The relationship also gets worse during the course of the crisis.

As a result, the profitability variable fits the Pecking-Order Theory quite well. It makes reasonable that conservative businesses, like the ones in the study sample, would rely more on internal finance during economically challenging times. In addition to the Pecking-Order Theory, a speculative hypothesis that could help to explain the growing negative correlation between leverage and profitability is how both investors perceive highly leveraged firms in comparison to lower leveraged ones. Using the stock market's sector rotation as an example, lower leveraged corporations may be seen as more secure, making them an appealing investment option during uncertain economic times. This

makes it simpler for lower leveraged corporations to raise equity and pay off debt. The findings also argue against the Free Cash Flow Theory and Agency Cost Theory, which are thought to be more closely associated to more leverage and larger earnings. Since more firms could theoretically be at risk of financial hardship due to the economic shock caused by the COVID-19 pandemic situation, the decrease in coefficients is somewhat unexpected. Contrarily, the desire for businesses with less leverage may outweigh the prior justification and make the relationship less favorable (as with total equity). Another argument is that businesses have sold their fixed assets to deal with the pandemic, which has decreased their corporate tangibility.

The growth factor has a statistically significant impact on equity but not leverage. As a result, the outcome could imply that growing businesses demand funding. As Colombage et al. (2017) pointed out, stock is more expensive than debt, and hence debt is a typical source of capital when obtaining funds. The opposite relationship is predicted by the Trade-Off Theory. According to Jensen and Meckling (1976), rapid growth businesses have higher agency and financial distress costs. Furthermore, it might be argued that Ghanaian banks' high level of accounting and corporate transparency, as well as a sound regulatory environment, all reduce these expenses, possibly to such an extent that it is not comparable to nations in previous research.

According to the risk absorption concept, capital structure and increased liquidity go hand in hand. The capital structure (in this case both leverage and total equity) is unaffected significantly by liquidity. However, the sign is favorable, which is in line with the theory of financial instability crowding out (Gorton and Winton, 2017; Li et al., 2020). The central bank's open market operations are thought to have an impact on the

leverage of banks. Bank lending rises as announcements of purchases by central banks are announced (Grosse-Rueschkamp et al., 2019). However, our projections do not indicate any effect on the banks' leverage from open market activities.

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.0 Introduction

This chapter summarizes the study's findings before offering conclusions and recommendations for further research or practice. This was done with support from the data that was gathered and examined.

5.2 Summary of Findings

5.2.1 The Changes in Capital Structure Ratios during Pandemic

The two dependent variable used in this study(leverage and Equity) and capital structure determinants started having a severe impact by the covid 19 pandemic in the 2020 to early 2022.This was evidenced by the use of trend analysis shown by the graphs in figure 2 and figure 3. A Sharp rise in debt started from 2021 where the pandemic impacted the country economically, this denotes that firms and corporate institutions resorted more to leverage financing during this era and are prone to more risk. In summary, a rise in leverage during a pandemic or crisis is generally a cause for concern. . The use of leverage can magnify the impact of losses, which can lead to a decline in equity value and reduction in value of the company. It also indicates increased financial risk, potential capital adequacy issues, and liquidity challenges, all of which can have negative effects on the institution's stability, operations, and its ability to support economic recovery. This supports the trade – off theory and they were consistent with previous research (Acharya and Steffen, 2020; Halling *et al.,* 2020; Li *et al.,* 2020; Gopalakrishnan *et al.,* 2022).

A Sharp rise in Equity can be seen from 2020 and stabilized at the end of 2020, but 2021 the Equity determinant started falling drastically in 2022, where the year 2022 was a post

Covid 19 pandemic era. This denotes that firms and corporate institutions resorted more to leverage financing during this era (2021- 2022).

5.2.2 Impact of Covid 19 Pandemic on Capital Structure of Listed Banks

In this study, two econometric equations were proposed. This led to the need to run two regressions towards achieving the research objective two. These equations pointed to the dependency of the two capital structure proxies for the study (i.e., leverage and equity). However, the results for both model 1 (for leverage) and model 2 (for total equity) shows statistical significance with adjusted R-squared values of 57.3% and 51.4% respectively. From the test results, the COVID-19 dummy results are positive and not statistically significant at 5%. The outcome, which has a positive sign, is comparable to that of Christopher et al (2022).Essentially, the COVID-19 situation has impacted corporate leverage badly and encouraged businesses to take on greater leverage. A similar effect is seen with its impact on total equity. On the other hand, utilizing this understanding of earlier academic studies, it may be claimed that the study's firms showed signs of possibly being overleveraged before the COVID-19 epidemic. This logic is predicated on the notion that businesses with higher levels of leverage are already more prone to risk. **Equity** and **Profit** are highly significant predictors, with substantial negative impacts on Leverage. **Growth** is statistically significant but has a small effect. **Size, Liquidity, Interest Rate, GDP, and Inflation Rate** do not appear to have a strong impact on Leverage In summary, in this analysis, Covid-19 has a small coefficient and is not statistically significant in explaining Equity. **Leverage, Profit, and Interest Rate are statistically significant predictors of Equity**. Whiles Size**, Growth, Liquidity, GDP, Tangibility, and Inflation Rate** do not appear to have a strong direct impact on

Equity in this model. The negative relationship between total equity and business leverage is consistent with previous research (Zhou *et al.,* 2021).

5.3 Recommendations and Policy Implications

- Banking institutions and firms should enhance credit risk assessment processes to identify deteriorating credit quality early. Implement loan forbearance or modification programs when necessary to support borrowers in distress.
- Banks should maintain ample liquidity reserves to meet withdrawal demands and operational needs during periods of financial stress. Cost Management: Implement cost containment measures to reduce non-essential expenses without compromising the quality of service.
- Firms should stay compliant with regulatory guidance related to capital and liquidity requirements during economic crises.
- The governments should institute a support Programs. Government support programs, such as central bank lending facilities or loan guarantee programs, to bolster liquidity and capital positions.

5.4 Future Research Direction

- Factors taken into account in this analysis do not include either mediation or moderation variables. Therefore, further research should consider such exploratory studies. This we believe could elicit some fascinating results.
- Furthermore, a further study is recommended covering all of the commercial banks and banks not studied as well as to provide a more thorough review of the topic, in order to identify potential discrepancies if they exist. This would in fact

increase the number observations hence providing a much clearer picture of the investigated relationships.

- In addition to the above recommendation, the future researcher could also consider other management ratios in relation to the one mentioned in this paper that could have been affected by the pandemic as well

5.5 Conclusion

The COVID-19 dummy findings were found to be positive and not statistically significant at 5% based on the test results. The results, which had a positive sign, were similar to those of Christopher et al (2022*).* The COVID-19 pandemic scenario has, in essence, had effect on companies leverage and encouraged corporations to go in for larger leverage. Its impact on total equity is observed to have a similar outcome. On the other hand, it was argued that the study's enterprises (banks) showed indications of perhaps reasoning is based on the idea that organizations that have larger tier of leverage are previously more vulnerable to risk. These findings were consistent with previous research (Acharya and Steffen, 2020; Halling *et al.,* 2020; Li *et al.,* 2020; Gopalakrishnan *et al.,* 2022).

Furthermore, for the full sample in the given term, there was an increase in leverage during the pandemic period. On the other hand, as was evident from the cross-sectional study of the graphs (fig. 3), the total equity of the financial institutions witnessed a severe fall around the COVID-19 crisis from the cross-sectional study of the graphs in (fig.3). This study, in line with other studies (Gropp and Heider, 2010; Mohammad and Nishiyama, 2019; Rajan and Zingales, 1995), discovered that larger banks often retain weaker capital positions as compared to smaller banks. Again, the study also discovered

that profitability is clearly inversely connected to leverage. During the crisis, the relationship deteriorates more. As a result, the profitability variable closely matches the Pecking-Order Theory.

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