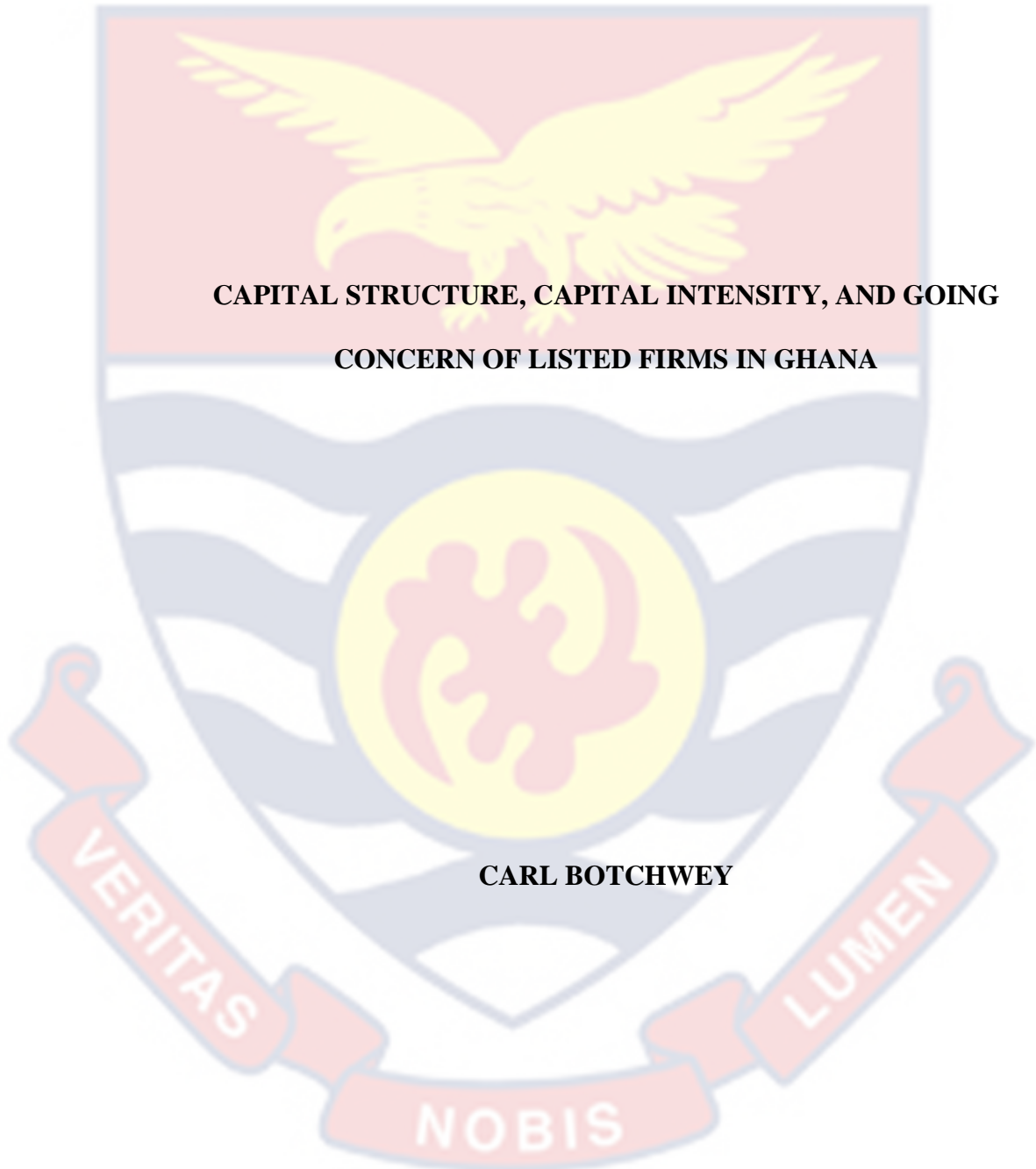**UNIVERSITY OF CAPE COAST**

CAPITAL STRUCTURE, CAPITAL INTENSITY, AND GOING

CONCERN OF LISTED FIRMS IN GHANA

CARL BOTCHWEY

2022

UNIVERSITY OF CAPE COAST

CAPITAL STRUCTURE, CAPITAL INTENSITY, AND GOING CONCERN

OF LISTED FIRMS IN GHANA

BY

CARL BOTCHWEY

Thesis submitted to the Department of Accounting of the School of Business,

College of Humanities and Legal Studies, University of Cape Coast, in partial

fulfillment of the requirements for the award of Master of Commerce degree in

Accounting.

JULY 2022

DECLARATION

Candidate's Declaration

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

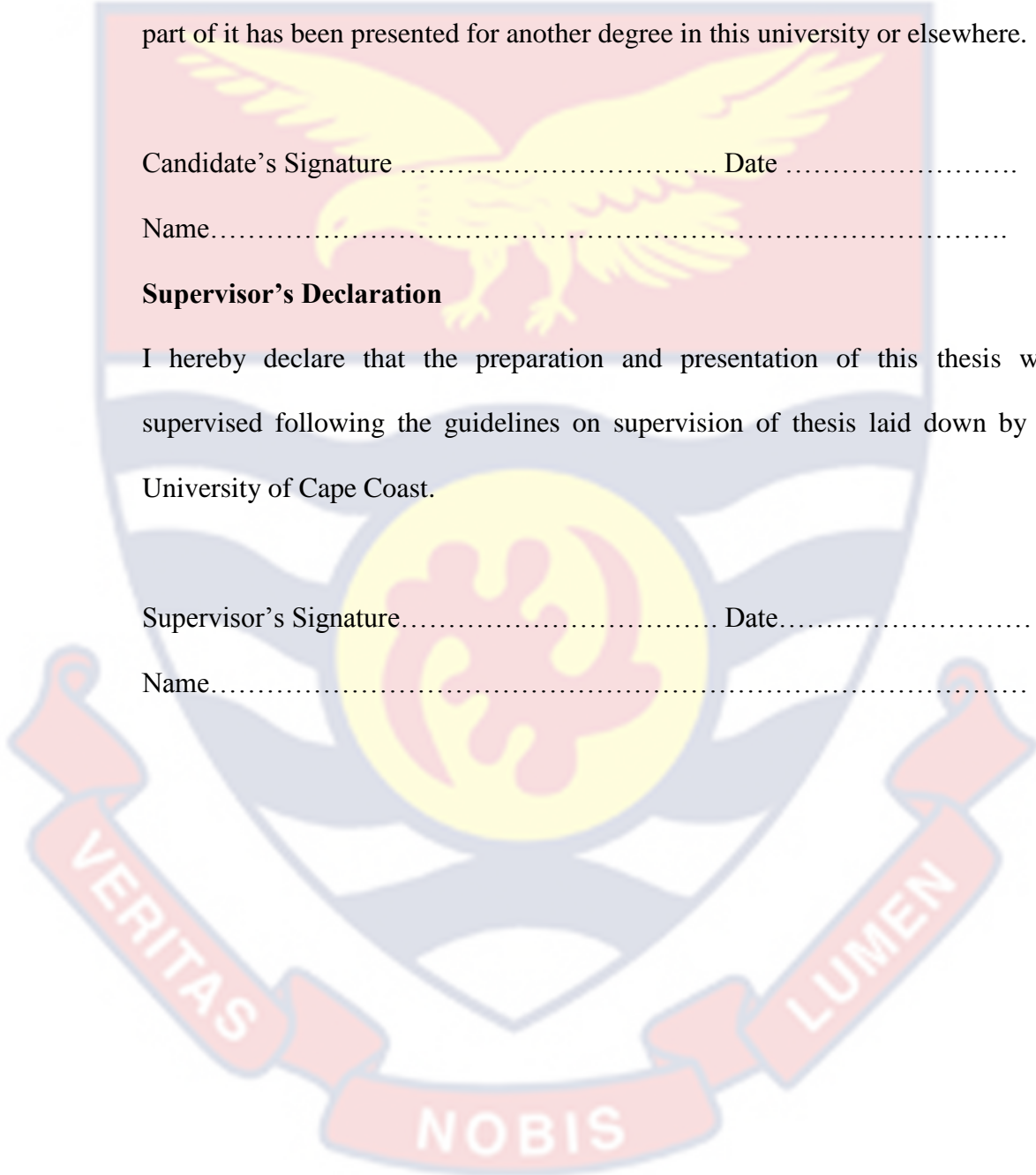Candidate's Signature ……………………………. Date ……………………….

Name…………………………………………………………………………….

Supervisor's Declaration

I hereby declare that the preparation and presentation of this thesis were supervised following the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature……………………………. Date…………………………

Name…………………………………………………………………………………

ABSTRACT

A general-purpose financial report prepared on the accrual basis of accounting derives its relevance from the going concern assumption. Going concern assumption underpins accounting recognition and measurement requirements. In Ghana, there's little empirical evidence to suggest going concern status is vital when making capital structure decisions. The study investigated the moderating role of capital intensity on the relationship between leverage and going concern of both listed financial and non-financial companies in Ghana. Using the generalized method of moments estimation technique (GMM), the study employed three multivariate discriminant scores as proxies for going concern, namely, adjusted Altman's score, Taffler's Z-score, and Springate's score. The study found that leverage had a positive relationship with the going concern of financial listed firms but posed a detrimental impact on the going concern of non-financial listed firms. The study also found that capital intensity had a positive relationship with the going concern of financial listed firms but harmed the going concern of non-financial firms. The study concludes that capital intensity moderates positively the relationship between leverage and going concern of financial and non-financial listed firms. The study recommends managers of financial firms obtaining debt financing consider a concurrent strategy of increasing a portion of fixed assets compared to total assets as a strategy to manage potentially going concern challenges.

KEY WORDS

Going concern

Leverage

Capital intensity

Altman's Z-score

Taffler's score

Springate's score

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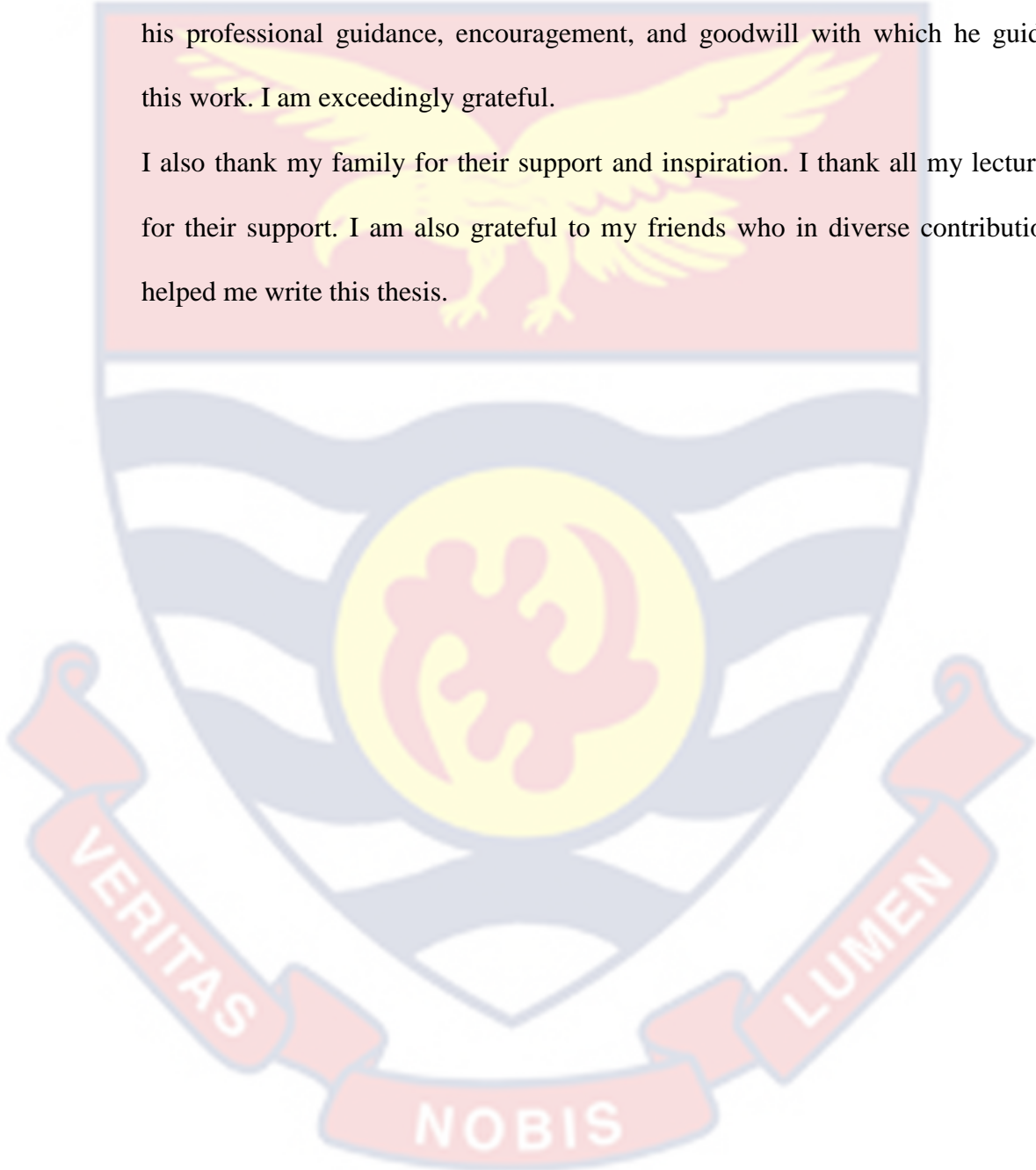
DEDICATION

To my family, Mary, Cecilia, Sheila, and Caroline.

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ALT   Adjusted Altman's score

BI   Board Independence

CAP   Capital Intensity

CIXLEV   Interaction between leverage and capital intensity

FS   Firm Size

GC   Going Concern

LEV   Leverage

PPE   Property, Plant, and Equipment

PR   Profitability

SG   Sales Growth

SPR   Springate's score

TAF   Taffler's score
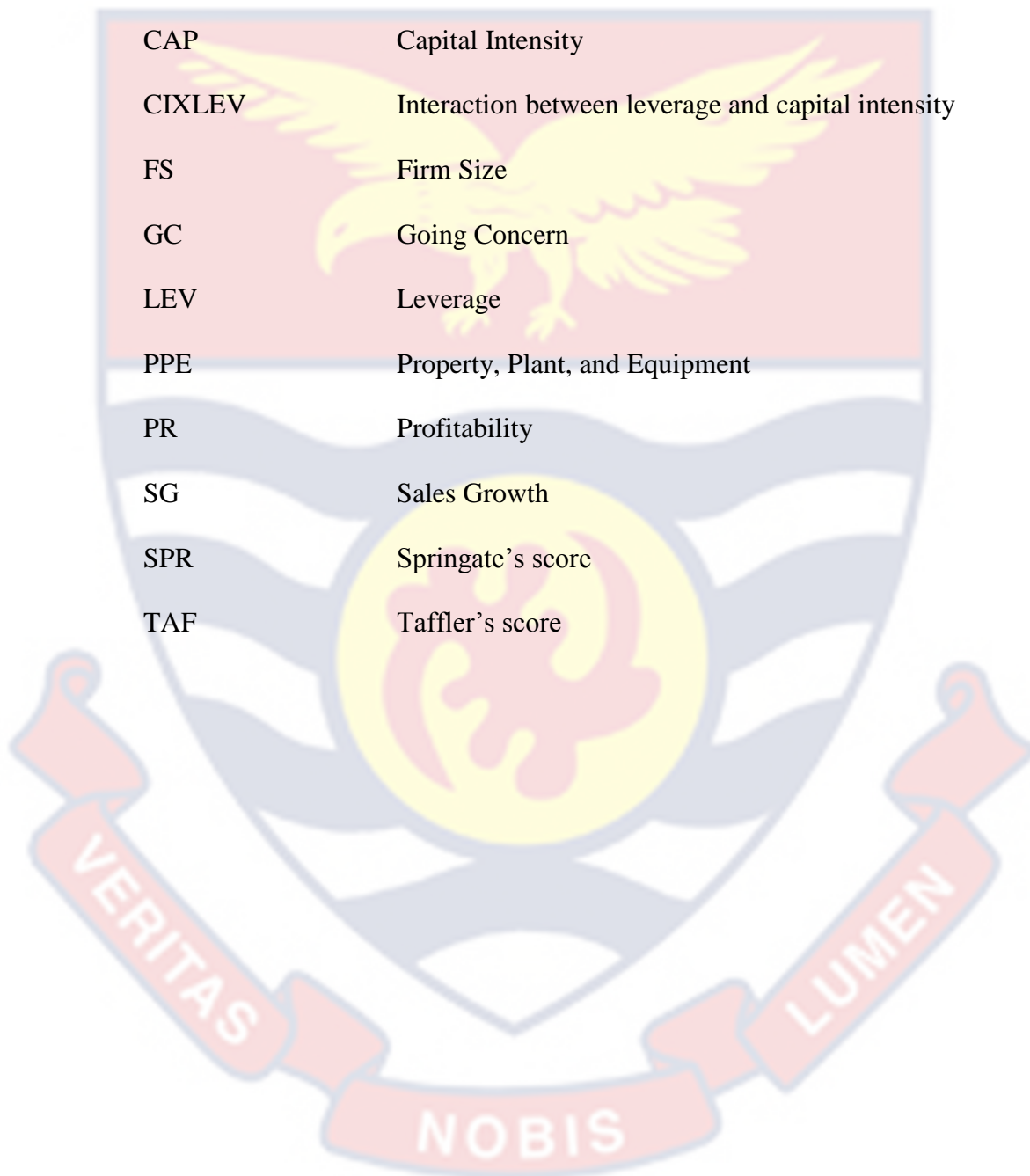
CHAPTER ONE

INTRODUCTION

Business organizations, large and small alike, are expected to operate into the foreseeable future sufficient for them to carry out their commitments, obligations, and objectives. This expectation is necessary since a comprehensive financial report made using the accrual method of accounting derives its relevance from this principle. Because of the disruption that can occur as a result of the sudden collapse of a company perceived to be in good standing, researchers have tried to investigate the factors that can impede this going concern assumption by providing empirical insight into the concept. Leverage and capital intensity are two of the factors that have been linked to financial distress in literature. The study provides empirical insight into how a firm's capital structure affects this going concern assumption. Additionally, the study examines how capital intensity influences the link between leverage and going concern. The majority of research that attempts to examine the connection between capital structure and business health focus on a few select firm characteristics, such as profitability, liquidity, and earnings quality. This study provides an interesting twist by using three multi-discriminant variables as proxies for going concern. A study of this nature will inform a variety of stakeholders such as investors, business executives, auditors, and academics on the link that exists between capital structure, capital intensity, and business sustainability.

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Background to the Study

Going concern is an important accounting assumption that has been subjected to intense and thorough examination. It has been a key source of worry for academics and practitioners alike because issues related to company failure and bankruptcy are vast and can threaten a wide range of stakeholders. The going concern concept, a fundamental tenet of accounting, asserts that a firm will continue to operate for the foreseeable future. Audit procedures generally necessitate the assessment of audit clients as a going concern. This procedure necessitates active auditor participation in determining a company's sustainability. This criterion on how to make a going concern evaluation has been challenged as being overly subjective, vague, and imprecise (Mactavish, McCracken, & Schmidt, 2018). The auditor is still largely on his own, using his discretion and expertise; additionally, there are not enough tools available to generate a qualified going concern opinion (Brunelli, 2018; Mareque, Lopez-Corrales, & Pedrosa 2017).

Empirical evidence suggests that determining whether or not a company would be sustainable is a challenging process that cannot be easily determined by auditors. A study by Taffler and Tseung (1984) revealed that seventy-five percent of firms that went bankrupt between 1977-1983 had no going concern uncertainties with their financial statement. Sullivan, Warren and Westbrook (2020) also discovered that only forty-three percent of insolvent enterprises in the United States had their financial statement qualified on a going concern basis before bankruptcy. Clean audit reports delivered to failing companies without

indicating sustainability risks mistrust in the audit profession and, in many cases, losses to both professionals and owners. (Christensen, Neuman, & Rice, 2019; Hardies, Vandenhaute, & Breesch, 2018; Quick & Schmidt, 2018).

Given the aforementioned, some scholars have advocated that auditors should utilise arithmetical methods like multivariate statistical analysis, logistic regression, and probit analysis to help them determine if audit clients would be able to function in the coming years. According to earlier research, this model performs better when comparing the results of several business failure models with audit reports supplied prior to business failures by a wide margin (Jayasekera, 2018; Morris, 2018; Serrano-Cinca, Gutierrez-Nieto, & Bernate-Valbuena, 2019). These results demonstrate the potential use of failure models as a substantial analytical tool for auditors to obtain more suitable going concern judgments.

In Ghana, empirical evidence suggests that discriminant scores are potent in categorising firms into failing and non-failing. Bimpong (2020) tested the prediction power of both Altman and Taffler's models. Employing data from publicly traded consumer commodity firms for a period of 5 years the study revealed that Altman's score had a prediction power rate of 66 percent. Taffler's score also had a prediction power rate of 88 percent. The study shows that Z-scores effectively classify firms into distress and non-distress in Ghana. This research was corroborated by the work of Angsoyiri and Ativor (2021) who asserted that the Z-score was an essential analytical technique that can be adopted by financial institutions to determine their financial health. More so, Bunyaminu,

Mohammed and Issah (2019) concluded that the Altman's Z-score could classify firms into distressed and non-distressed among entities in Ghana.

On the other hand, capital structure decisions are the financial bedrock of every organization, large or small. The capital structure decision of an entity is central to its profitability and sustainability. Different forms of financing are available to business organizations to facilitate their operations. Entities can issue huge or little sums of debt. In addition, it can negotiate a lease, issue equities, and sell convertible notes. Because of the economic consequence of different forms of financing, firms are careful to employ the capital structure that helps to sustain their operations.

The theoretical framework that underpins the study is the agency theory. Agency theory emanates from the symbiosis that exists between equity investors-the owners of the business and managers acting as agents of the shareholders. According to the argument, management teams do not always work for the good of the owners. As a result, the agents will make judgments and take actions that promotes their personal ambitions rather than the principals. Crowther and Martinez (2007, p. 1) stated that "no principals, no principles and nothing in reserves". They argued that the separation is deleterious to corporate performance and causes going concern challenges. The lack of goal congruence between the two parties' interests becomes very costly to the firms as the owners put in place mechanisms such as payment of share options and incentives to realign the managers' priorities with theirs.

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Capital intensity describes the company's investment in fixed assets (Nugraha & Mulyani, 2019). Capital intensity is often referred to as the operating leverage of a firm (Murwaningsari, & Rachmawati, 2017). Operating leverage is the ratio of an entity's investment in Property, Plant, and Equipment (PPE) to total assets or sales.

The hypothesis on capital intensity and firm performance has produced mixed results. Empirical evidence suggests that capital intensity may mitigate financial distress by reducing the operation cost of firms (Crespi-Cladera, Martin-Oliver, & Pascular-Fuster, 2021). The positive effects of capital intensity stemmed from managers' ability to reduce the subsequent cost of operation because the firm has already invested high initial amounts in PPEs. A company that invests a significant amount of money in a building will not incur recurrent expenditure on rentals. Thus, these cost savings increase firm value in the long run. More so, Charalambakis and Garrett (2012), assert that a company may use its investment in PPEs as collateral to reduce the costs associated with borrowing. Thus, capital intensity affects a firm positively by mitigating financially distressing situations associated with borrowing.

Conversely, Peterson (1994), opines that investment in fixed assets has a detrimental effect on firm value. Since the sales volume of firms fluctuates over time, an ongoing depreciation expense emanating from fixed assets will reduce the overall profitability when sales levels fall. Lee, Koh and Huh (2010), however, argue that, since the market can distinguish between cash expense and non-cash expense, the impact of depreciation is just a mirage and unreal.

This study also investigates the moderating effect of capital intensity in the capital structure and going concern nexus. The theoretical basis for interacting the two variables stems from a company's capacity to use its investment in PPE as collateral to reduce the risk associated with borrowing (Lee et al., 2010). As supported by the agency theory, a rise in debt increases creditors' risk and, as a result, increases lending rates. Capital intensity can reduce the worsening impact of leverage on a going concern by reducing the agency problem associated with borrowing; thus, the availability of collateral reduces the risk to lenders and ultimately reduces the cost of borrowing (Duarte, Gama, & Esperanca, 2017; Luck & Santos, 2019).

Empirical evidence on leverage and financial health has produced mixed results. Most research that looks at the relationship between leverage and capital intensity on firm characteristics has focused on profitability, firm value, and earnings quality. A study by Maxwell and Kehinde (2012), discovered that using leverage reduces business financial challenges. Their work was corroborated by the finding of Rafatnia et al. (2020), who asserted that leverage may swiftly reduce financial distress. More so, Abor (2005) investigated the link between leverage and return on equity and revealed debt is positively connected to return on equity. Remer and Kattilakoski (2021) looked at the relationship between capital structure and performance of financial organizations in Africa revealing that there is a positive connection between leverage and return on assets. These findings opposed the work of Kim, Lee and Kang (2021), who opined that leverage increases firm risk because financial markets perceived high leverage

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firms as risky. They argued that there are implicit and explicit costs related to financial distress and any firm that employ high levels of debt risk incurring such cost. Also, Ophelia et al. (2021) observed that debt policy harms the firm value of SMEs in Ghana.

Going concern uncertainties in studies have been linked to a variety of issues including macro-economic factors. Effiong and Ekpoese (2020) asserted that going concern challenges in an institution is a dynamic phenomenon because it is the result of administrative decisions made over time. They discovered that qualitative characteristics including investment in new endeavors outside of a company's typical industry, growth in the number of business locations, a change in the method of depreciation, and an increase in related party transactions could indicate a possible financial difficulty. A literature assessment of the implications of capital structure and capital intensity on a going concern status is scant. A study by Brunnermeier and Krishnamurthy (2020) revealed that debt exacerbates business financial difficulties and poses going concern challenges to entities. Muigai (2016) discovered that leverage harms the going concern of firms in Kenya.

Statement of the Problem

In Ghana, the incidence of company failure is high; just 15% of firms survive for more than three to five years. Seventy-five percent of businesses established in Ghana fail within the first three years, while those that survive the first three years do not go beyond ten years (Mohammed, 2017). Akoto (2022) observed that many businesses in Ghana fail before their fifth anniversary.

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Nyabor (2021) disclosed that 74 percent of new firms in Ghana fail within a short moment.

Business sustainability continues to be a major problem for sub-Saharan Africa, especially Ghana. Higher rates of going concern challenges have been experienced in recent years than any time since the 1930s (Attafuah & Ackah, 2020) Although, the impacts of business failure appears to be suicidal for the business owners and employees, the overall effect is experienced in the economy. An increase in unemployment, decrease in standard of living, underutilization of resources, and increase in crime rate are issues that are associated with business failure (Paul, Darity, Hamilton & Zaw, 2018). It implies that going concern challenges account for a significant level of Ghana's economic recession.

Although the going concern assumption underpins accounting recognition and measurement requirements, there is little empirical evidence that suggests that going concern status is of importance when making capital structure decisions (Morris, 2018). When a clean audit fails to flag going concern risks, investors lose faith in audit reports. Some of these challenges can be related to the paucity of literature on how variables that are widely known in the general financial distress literature such as leverage and capital intensity influence entities' going concern status.

The capital structure of a business is the financial skeleton that underlies the fundamental activities and the very existence of a business. Capital structure is a major determinant of going concern (Lee, Koh, & Kang 2011; Memba & Nyanumba, 2013). Over the years, research on capital structure and firm

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characteristics have focused on single dimensions such as profitability, earnings quality, leverage, and growth in investment (Muigai, 2016). These dimensions fail to highlight the overall financial soundness of an entity. This study addresses the scholarly gap by employing multivariate scores as the overall measure of going concern.

Potential capital structure and going concern studies have yielded mixed results (Muigai, 2016). Capital structure was discovered to be adversely associated with financial distress in studies by Perinpanathan (2014). Velnampy (2013) claims that leverage has a beneficial effect on distress. Leverage was shown to be insignificant in predicting returns on equity in Ghana's banking industry, according to a study by Gatsie and Akoto (2010). Furthermore, Akomeah, Bentil and Musah (2018) discovered that leverage variables were inversely connected to the firm value of companies in Ghana. Studies remain inconclusive on the subject of going concern of firms in Ghana and necessitates further research.

The argument on capital intensity and company profitability has produced mixed results (Lee et al., 2010). Empirical evidence suggests that capital intensity may reduce financial distress by reducing the subsequent cost of operation for firms (Crespi-Cladera et al., 2021). On the contrary, Peterson (1994) argues that capital intensity may aggravate going concern uncertainties when a constant depreciation expense emanating from fixed assets is matched against a fluctuating sales value. Thus, in periods of reduced sales volume, the profitability of firms may fall. These unsettled findings remain a puzzle and necessitate an

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investigation into the apparent effect of capital intensity in influencing firm sustainability.

There is a paucity of research on the moderating role of capital intensity in the capital structure and going concern nexus (Brunnermeier & Krishnamurthy, 2020; Lee et al. 2011). In developing economies such as Ghana, the potential interaction effect between leverage and capital intensity on going concern has received little investigation. As a result, the purpose of this research is to fill a scholarly void in the literature. Unlike previous studies (Akter & Roy, 2017; Husain & Sunardi, 2020), which limited their scope of study to specific areas such as liquidity, earnings quality, profitability, and sales growth, the research ascertains the impact of leverage on going concerns using multivariate discriminant variables; the adjusted Altman's score, Taffler's score, and Springate's score to measure going concern. The multivariate discriminant variable embodies all the single dimensions that have previously been used in literature.

Purpose of the Study

The study's aim is to ascertain the moderating effect of capital intensity in the capital structure and going concern nexus among listed firms in Ghana.

Research Objectives

The study specifically seeks to:

1.   Determine the effect of leverage on the going concern status of listed firms in Ghana.

2.   Determine the impact of capital intensity on the going concern status of listed firms in Ghana.

3.   Ascertain the moderating effect of capital intensity in the capital structure and going concern nexus among listed firms in Ghana.

Research Hypotheses

The study will address the following research hypotheses:

H_0: There is no relationship between leverage and going concern status of listed firms in Ghana.

H_1: There is a significant relationship between leverage and going concern status of listed firms in Ghana.

H_0: There is no relationship between capital intensity and going concern status of listed firms in Ghana.

H_1: There is a significant relationship between capital intensity and going concern status of listed firms in Ghana.

H_0: Capital intensity has no moderating role in the relationship between leverage and going concern status of listed firms in Ghana.

H_1: Capital intensity has a significant moderating role in the relationship between leverage and going concern status of the listed firm in Ghana.

Significance of the Study

This type of research will be useful in a variety of ways. First, findings from this study will furnish businesses, managers, and investors with the impact of high-leverage on the sustainability of firms. This will enable firms to use the appropriate level of leverage to boost and increase shareholders' wealth. More so,

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the findings of the study will also help the capital market regulators and other policymakers in developing suitable procedures to observe and assess firms' capital structure. It may be accomplished by defining industry-specific debt limits to shelter firms from the risk of failure or bankruptcy associated with leverage.

More so, the study will establish the relationship between capital intensity and firm sustainability. This study will also bring to light how investment in fixed assets influences the association between debt financing and firm sustainability. This will enable a business to make accurate judgements about the suitable level of investment in fixed assets. Furthermore, the findings from this work will be of scholarly importance by setting the pace for further research in this area.

Delimitations

The study looks at how debt financing and investment in fixed assets influence the going concern of firms. More so, the study ascertains the moderating effect of capital intensity in the financing structure and going concern nexus. The study employs two different sets of data to investigate the relationship between the phenomena. This is because listed financial firms have different capital requirements. The explanatory variables in the study are leverage and capital intensity. The study uses three multivariate discriminant scores which are widely used in the literature as a proxy for going concern; the adjusted Altman's score, Taffler's score, and Springate's score. The study focuses on 24 out of 37 entities trading in the Ghanaian securities market. The research specifically concentrates on 14 non-financial firms and 10 financial firms across 2010 to 2020 and 2012 to 2020 years respectively. The difference in periods is explained by the general

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methods of moments methodology which requires that the number of companies should be more than the number of periods.

Limitations

The number of periods in the study may be regarded as inadequate to provide an exhaustive exegesis of the effect of both leverage and capital intensity on going concern. Entities covered by the study may be considered insufficient to provide a generalization to the study. The study is also susceptible to errors emanating from the annual reports and financial statements which were used.

More so, the study can be limited by the methodology that is employed by the study. The GMM methodology employed by the study is susceptible to changes in results that emanate from a change in the instruments. The above limitations provide a possibility for the research to arrive at a biased conclusion.

Organization of the Study

There are five chapters in the research. An overview and objectives of the study are presented in the first section. A comprehensive review of the topic is presented in the second section. The research model is specified in the third section. The study's results are presented and conclusions and recommendations are drawn.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter reviews key studies on how leverage and capital intensity affect the going concern of firms. The study also looks at the potential interaction repercussions of leverage and capital intensity on a going concern. More specifically, the research provides a theoretical, conceptual, and empirical review of the study.

Going Concern Assumption

As a fundamental concept in accounting literature, the going concern assumption assumes that a company will continue to exist in the near future for it to carry out its commitments, obligations and objectives. This assumption is important because a comprehensive financial statement made on an accrual method depends on this principle to obtain its relevance. In the absence of this principle, entities cannot make prepayments or create accruals; assets and liabilities cannot be categorized into current and non-current; depreciation and amortization of assets cannot materialize. It does not only give a more methodical approach to financial transaction recording, but it also provides a strong knowledge of the firm, its development, and long-term financial sustainability. Under the International Financial Reporting Standards (IFRS), directors must satisfy themselves that preparing a comprehensive statement on a going concern approach is reasonable and appropriate.

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The International Standards on Auditing 570, profiles the role of the external auditor in the financial statement usage of the going concern premise. The standard mandates auditors to gather sufficient acceptable evidence to support the firm's usage of the going concern basis; to establish if there is a significant doubt about the company's capacity to function in the foreseeable future based on the audit evidence, and to determine the ramifications for the expert's report.

The auditor will have to engage directly in the activities of the business to attain this goal. However, many scholars have claimed that the expert's evaluation of going concern is very subjective (Mactavish et al., 2018). In addition to the subjective nature of appraising a going concern, auditors do not have enough instruments with which to undertake this task (Brunelli, 2018; Mareque et al., 2017). The evaluation of going concern has been proved to be a challenging process based on empirical evidence. Audit reports that are approved as clean fail to reveal going concern risks, posing several issues to investors and other stakeholders (Desai, Kim, Desai, & Raghunandan, 2020; Szczepankiewicz, 2021).

In the light of the above, statistical models have been recognized as an analytical process in auditing standards to help address this perplexing issue. The potential relevance of quantitative tools for measuring going concern was recognized in the literature in 1970 (Bundy, 2019; Masoud, 2017). Empirical studies comparing the incidence of several mathematical tools with expert reports provided before failure found that such a model performs better than auditors' views issued to the same companies by a wide margin (Jayasekera, 2018; Morris,

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2018). The above shows that mathematical tools could be useful as a substantive

analytical approach for auditors to obtain more suitable going concern judgments

Agency Theory

The agency theory anchors on the separation between ownership and management in companies. The theory asserts that the management team act as the custodian of the business and its operational activities. Smith (1776, p. 2) questioned the motivation of the managers to conduct their actions honestly by asserting that "managers rather of other people's money rather than their own, it cannot well be expected that they should look over it with the same anxious vigilance with which the partners of a private copartner frequently watch over their own". The theory assumes the management teams will not prioritize the interest of equity investors but rather pursue their selfish-interest. Crowther and Martinez (2007, p. 1) debate the issue of agency arguing that it is deleterious to corporate performance and causes going concern challenges stating "no principals, no principles and nothing in reserves". This lack of goal alignment becomes very costly to the business as the owners put in place mechanisms such as payment of share options and other incentives to match the priorities of managers with theirs.

Jensen and Meckling (1976) identified the possibility of conflicting interests between two sets of parties; the management team and equity investors, and equity investors and creditors. They argued that those at the helm of affairs may prioritise their interest over the resource providers. Thus, management may not be committed to increasing shareholder wealth but to engaging in suboptimal

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ventures that consequently erode shareholder wealth. Shareholders also, may rely on limited liability status and engage in suboptimal and unprofitable ventures to the detriment of debt holders. Debt, therefore, enables equity investors to make careless decisions. To mitigate the potential losses that are associated with lending, debt holders hire the services of a professional analyst to introduce debt covenants and restrictions.

These actions consequently increase the cost of debt. Firms will transfer the high cost of operation to the prices of products and services. This can result in unhealthy competition and a significant reduction in market share. The agency theory is relevant in supporting this thesis by asserting that conflicting interests between managers and owners can cause going concern challenges.

Empirical Review

This section reviews literature on the studies. Thus, the study presents the empirical review on the relationship between capital structure and going concern, capital intensity and going concern, and the moderating role of capital intensity in the capital structure and going concern nexus.

Financial leverage and going concern

A study by Ipkesu and Osazemen (2018), revealed that leverage had a negative relationship with Altman's score. This study was corroborated by the work of Baimwera and Muriuk (2014), who also found that debt financing puts businesses at significant economic risk which often threatens their going concern status. Also, Muigai (2016) performed research on the consequences of leverage on the financial distress of businesses in Kenya between the 2004 to 2013-year

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period. The study found that financial leverage had a substantial detrimental impact on Altman's score. The finding corroborated with the work by Muigai and Muriithi (2017), and Vishnu and Kumar (2014).

Nasrin (2022) examined the effect of leverage on going concerns of 180 European firms from 2013 to 2018, the study revealed that leverage had a positive association with business stability. Pratheepkanth (2011) found that leverage worsened the distress level of companies on the Colombo Stock Exchange between 2005 to 2009 period. The findings implied that a rise in loan usage reduces profitability in a little manner. This work supports the findings of

Perinpanathan (2014) who conducted a study on Keel's Holding company between 2006 and 2012 period. This was, however, in stark contrast with the study by Hung, Albert and Eddie (2002), who observed a favorable association between debt usage and financial health among Hong Kong-based enterprises.

More so, Lucky and Agilebu (2019), observed the impact of debt usage on Altman's Z-score of Nigerian companies. The research employed the fixed effect model to ascertain the research goal. The study discovered that leverage increased the Z-score. Rayan (2010) carried out a study on the impact of leverage on business value. The study concluded that leverage reduces firm value in Southern Africa. He concluded that firms that try to capitalize on the tax benefit of leverage end up employing too much leverage and consequently incurring a high cost of capital.

Bachri, Susono, Alethea, Habibah and Darwis (2021) discovered that leverage has a substantial favorable influence on the distress level of enterprises

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in Indonesia and Malaysia. Gupta and Gupta (2014) employed both debt and equity as proxies for leverage and measured financial health by ROA. ROA was shown to be adversely and substantially connected with debt financing while being favorably correlated with equity financing.

The study concluded that firms that are highly geared face going concern challenges than equity-financed firms. These findings were similar to the study conducted by Xin (2014), who revealed an unfavorable link between leverage measured as the ratio of debt-equity, and growth in earnings per share among Vietnam entities.

Also, Kazemian, Shauri, Sanusi, Kamaluddin and Shuhidan (2017), found a substantial adverse link between leverage and Altman's score of Malaysian publicly traded enterprises. The results supported the pecking order hypothesis coined by Myers and Majluf (1984), and the moral hazard problem by Meckling and Jensen (1976) that leverage harms business sustainability. More so, Umar, Tanveer, Aslam and Sajid (2012) performed research on the link between debt usage and the financial health of entities in Pakistan between the 2006 to 2009-year period. The study measured firm distress by EPS, net profit margin, and EBIT. The study found that leverage was strongly and favorably related to individual measures of financial health.

Capital intensity and going concern

Capital intensity describes a company's commitment to fixed assets in its total assets (Nugraha & Mulyani, 2019). It is the proportion of investment in PPEs to the total assets or sales of an entity. Murwaningsari and Rachmawati (2017)

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describe capital intensity as the operating leverage of an entity. In Ghana, firms that invest a substantial amount in fixed assets (depreciable assets) can benefit from capital allowance in the form of tax credits to reduce their tax burden. Consequently, a reduction in tax payment can translate into a reduction in the prices of the firm's products and services. Firms can achieve a sustainable competitive advantage when they can offer goods and services at a cost lower than their competitors

Thus, the concept of capital allowance provides a theoretical justification for the impact of capital intensity on a going concern. An assessment of capital intensity on financial health has produced mixed results. According to empirical evidence, the capital intensity may lessen financial distress by reducing the cost of operation for entities (Crespi-Cladera et al., 2021). Thus, entities that commit huge costs in acquiring properties may benefit from the reduced cost of operations by avoiding rentals and hiring costs in the future periods.

More so, Shin, Mendoza, Hawkins and Choi (2017) argue that capital-intensive firms can produce in large quantities and hence make enough revenue. This makes them less susceptible to financial distress.

Lannelongue, Gonzalez-Benito and Quiroz (2017) assert that capital intensity poses a detrimental effect on firm profitability. Peterson (1994) argues that since the sales volume of firms fluctuates over time, an ongoing depreciation expense emanating from fixed assets will reduce the overall profitability when sales levels fall. Maxim (2021) conducted a study among 124 retail companies in Romania during the 2008 – 2016 period. The study found that capital intensity was

positively and substantially connected to financial health measured by EBITDA. This study was, however, in stark contrast with the study conducted by Gamlath and Yogendrarajah (2013) on how investment in PPEs influences the performance of banks and insurance firms in Sri Lanka. The study revealed that investment in PPE was deleterious to gross profit margin and ROA. The study concluded that profitability in the banking and insurance sector was mainly driven by the availability of short-term funds without adequate investment in long-term assets which reduces the liquidity of firms.

Korir (2021) studied the effects of investments in PPEs on the firm performance of companies in Kenya between the 2015 to 2019 periods. The study observed a favorable outcome between the two variables. This outcome was, however, in stark contrast with the work of Elmasr (2007). The study probed the association between capital intensity and stock returns of over 2200 publicly traded companies in Europe and North America from 1984 to 2002. The study found an unfavorable link between capital intensity and returns on the stock. The study concluded that capital-intensive companies usually rely on tangible assets as the only means to be successful and this can be easily replicated by competitors. Such flexibility of imitation fosters strong competition, low industry profitability, and, as a result, a reduced return on capital.

The moderating effect of capital intensity in the leverage and going concern nexus

One theoretical basis for interacting the two variables stems from a company's usage of its investment in fixed assets as collateral to reduce the risk

associated with lending (Charalambakis & Garrett, 2008; Lee et al., 2011). As supported by the agency theory, when debt increases, the lender's risk increases, and the cost of borrowing is increased. Capital intensity can reduce the worsening impact of leverage on a going concern by reducing the agency problem associated with borrowing; thus, the availability of collateral reduces the risk of lenders and ultimately reduces the cost of borrowing (Calomiris, Larrain, Liberti, & Sturgess 2017; Crespi-Cladera et al., 2021)

Conceptual Framework
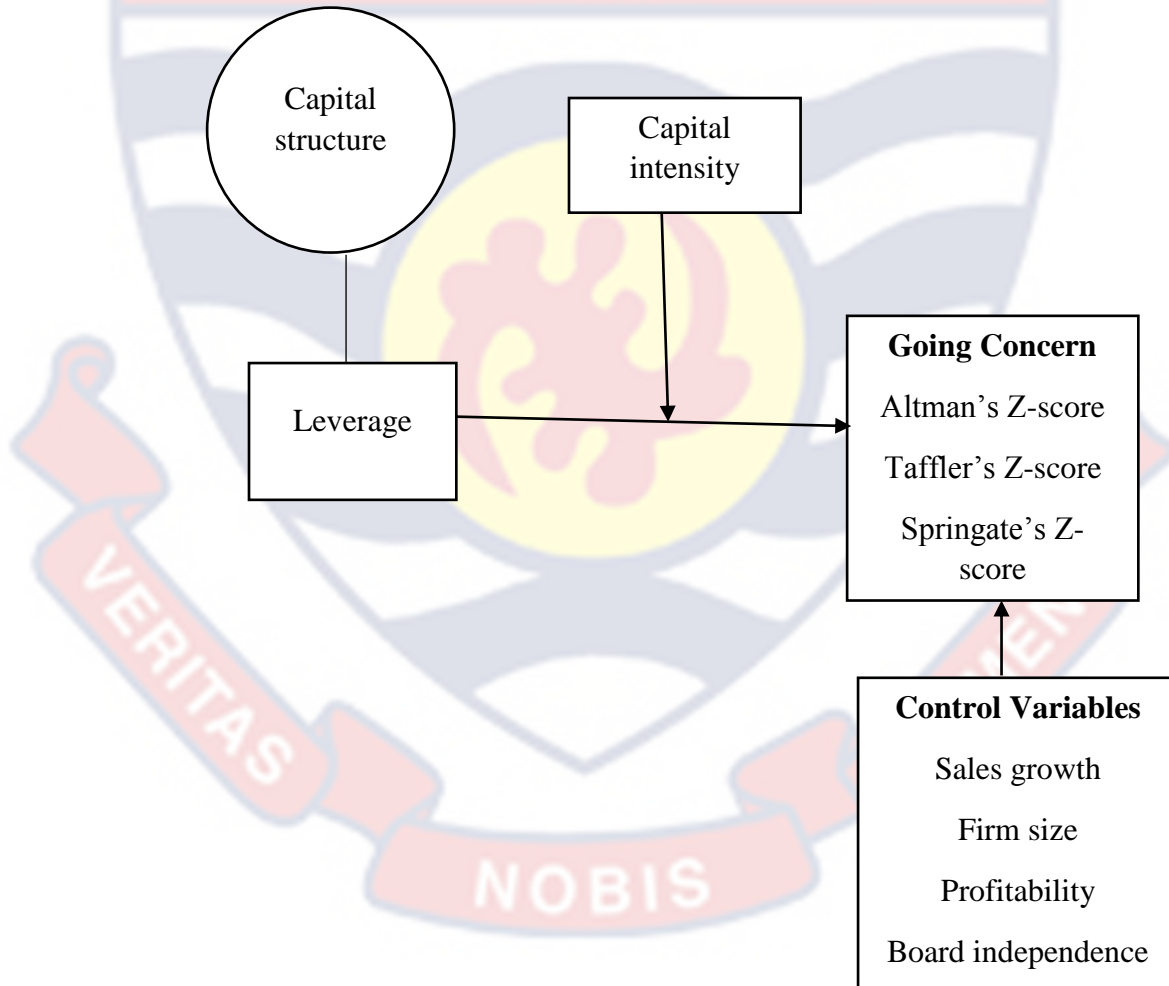
Figure 1: Conceptual framework

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Source: Author's Construct (2022)

Figure 1 depicts the conceptual framework of the study. The study measures capital structure as leverage. Going concern in the study is measured using the Altman's score, Taffler's score and Springate's score. Capital intensity plays a moderating role in the leverage and going concern nexus. The study controls for sales growth, firms size, profitability and board independence.

Chapter Summary

The chapter presented the theoretical, empirical and conceptual review of the study. More specifically, the study reviewed key studies on the relationship between leverage and capital intensity on going concern. The theoretical framework that underpinned the study was the agency theory. Also a conceptual framework was developed to explain the study.
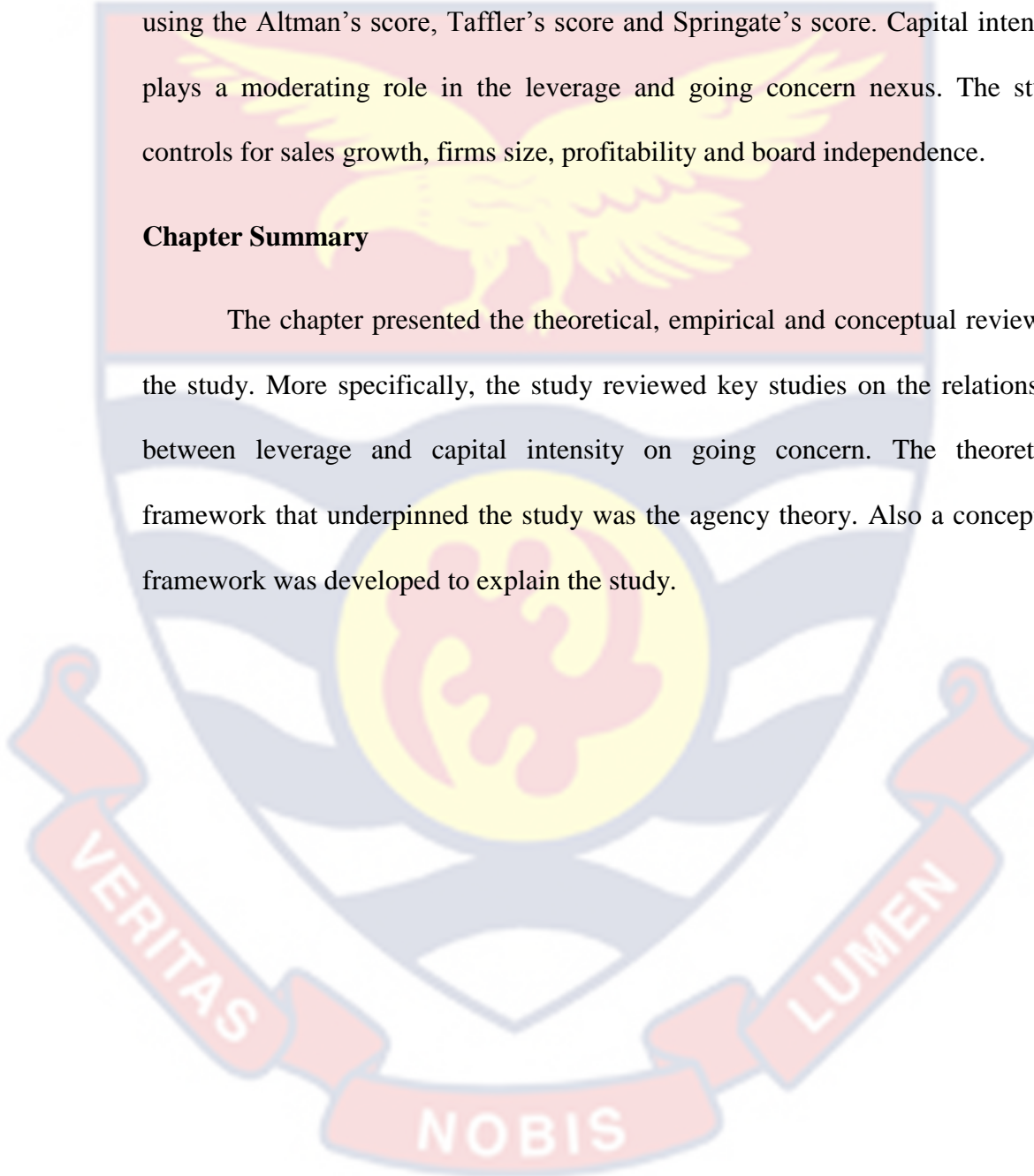
CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter provides information concerning the methods that were used to carry out this study. It focuses on the research design, the study area, the target population and sampling procedure, data collection, and analysis technique. The study sheds light on an empirical model that underpins the study.

Research Philosophy

Positivism, critical realism, interpretivism, postmodernism, and pragmatism are the five major philosophies that have shaped social science research over the years (Saunders, Lewis, & Thornhill, 2016). They contended that each of these philosophies had something distinctive and valuable to offer the researcher. Individual researchers' philosophical perspectives will often lead to a strong qualitative, quantitative, and mixed methods approach in their research (Creswell, 2014). The research is based on the positivist approach, which is a philosophical system that embraces issues that can be scientifically verified and thus provide a foundation for generalization. According to Saunders et al. (2016, p. 136), the positivist paradigm supports quantitative studies. They argue that "there is an objective truth existing in the world that can be measured and explained scientifically." Because the hypotheses were tested using the agency theory, the paradigm is appropriate for the study

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Research Design

Amedahe and Asamoah-Gyimah (2016, p. 73), define research design as "the broad plan for obtaining answers to research questions. It outlines the procedure for the conduct of the research". It is the overall structure or blueprint that provides navigation to the work from the designing of research objectives to the reporting of empirical findings.

The study employs a quantitative research design. "Quantitative research design is useful when the data for the research variables are in the form of financial ratios" (Muigai, 2016, p. 49). Financial ratios were computed for each firm for a range of periods and these ratios were later converted into panels.

Population

The study will be conducted in Ghana. The population will comprise all entities trading on the Ghana Stock Exchange (GSE) as of January 2022. The study's population is made up of two categories: financial firms and non-financial firms. The distinction is made because financial firms are highly regulated in terms of capital holding, liquidity and assets by the central bank of Ghana. Therefore, treating the population as a single unit is impractical and misleading. Financial institutions comprise banks, insurance, and investment entities. All other entities that do not fall under financial institutions are regarded as non-financial institutions. There are 15 financial firms and 22 non-financial firms among the 37 firms on the GSE.

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Sampling Procedure

The study will employ a purposive sampling technique. "Purposive sampling also known as judgmental or selective sampling is a form of a non-probabilistic sampling technique" (Omoniwa & Adedapo, 2017, p. 68). It allows a researcher to choose the members of the population using the characteristics of the population and the purpose of the study. The research employed the purposive sampling technique to select those entities that have annual reports that cover the periods under study. As a result, the study selected 14 non-financial firms and 10 financial firms that have annual reports that cover the study period. Firms that have recently been incorporated were dropped owing to the lack of financial statements.

Data Collection Procedure

The analysis makes use of secondary data derived from the firms' audited financial accounts. Data on non-financial entities were collected over 11 years, 2010-2020, and data on financial firms were collected over 9 years, 2012-2020. The researcher collected relevant data sufficient to aid in the computation of the ratios for the study

The researcher downloaded annual reports from the websites of the entities being studied. Data covering the period under study were gathered from the financial statements. The collected data were cross-checked to eliminate errors that are associated with working on bulk data. The collected data were exported to Microsoft Excel to aid in the computation of the various ratios for each year. The data were then arranged in a form suitable for it to be used in the software.

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Measurement of Study Variables

Going concern is the outcome variable for the study. The explanatory variables for the study are capital structure and capital intensity. The study also examines the potential moderating effect of capital intensity on the leverage and going concern nexus. The study controlled for the size of the firm, growth in sales, profitability and the independent directors on the board. A brief overview of how the variables were measured and operationalized is provided in Table 1

Going Concern

A firm faces going concern risk when its "financial obligations are unmet or honored with difficulty" (Wu et al., 2008, p. 206). Firms in financial distress experience great uncertainty in their survival and operational sustainability. "A financially distressed firm faces situations varying from non-payment to suppliers or preferred stockholders to bankruptcy declaration" (Lee et al., 2011, p. 430). The discourse above portrays going concern as a more comprehensive concept than one-dimensional concepts such as growth in investment. The study, therefore, employs three widely used multivariate discriminant scores in the literature namely modified Altman's Z-score, Taffler's Z-score and Springate's Z-score as proxies for going concern (Lee et al., 2011).

Table 1: Summary Measurement of Study Variables

Variables	Description/ Measurement	Data sources	Hypothesized effect on going concern
Independent variables			
Capital Structure	Total debt/Equity	Financial statement	Positive effect
Capital Intensity	Fixed assets/total assets	Financial statement	Positive effect
Dependent variable			
Going concern	Modified Altman's z score Taffler's z score Springate's z score	Financial statement	
Control variables			
Sales growth	$(Sales_t - Sales_{t-1}) / Sales_{t-1}$	Financial statement	Positive effect
Firm size	Natural log of total assets	Financial statement	Positive effect
Profitability	Net income / Sales	Financial statement	Positive effect
Board independence	The ratio of independent non-executive members to total members on the board	Financial statement	Positive effect

Source: Field survey (2022)

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Multiple Discriminant Analysis

Financial ratios have been employed as an effective tool for evaluating the performance of companies for many years. "Prior to the development of quantitative measures of company performance, agencies were established to supply a qualitative type of information assessing the credit-worthiness of particular merchants" (Altman, 1968, p. 590). Companies typically computed individual ratios to measure profitability, liquidity, and solvency. Organisations use different methods to compute the same ratio. More so, ratio analysis is susceptible to wrong interpretation. An organization may have a poor solvency ratio and may be regarded as bankrupt, however, they may have an average profitability ratio and this impending problem may be taken lightly in the organization. Thus, it becomes difficult to understand the overall state of an entity considering the outcome of specific individual ratios. Academicians appear to be drifting away from the use of ratio analysis in evaluating business performance.

Multiple discriminant analysis (MDA) has been introduced as an extensive analytical tool to predict corporate failure. An MDA model combines several characteristics of an entity into just one multivariate index. The final score which represents the financial health of the business is a one-dimensional value that can take on any number. Variables that may not offer much information on their own may make a significant contribution when placed in a multivariate context (Altman, 1968). The final score for an entity is benchmarked against the model's cut-off point so that the entity can be categorized as failing or non-failing. Blum (1974) asserted that classification by an MDA model does not necessarily predict

the firm as a failure but makes a claim that most firms that are categorized as failing are likely to fail in the succeeding years.

Altman's (1968) Z-score model

The model was devised in 1968 by Edward I. Altman, a professor at the Stern School of Business. Altman employed financial ratios in a multivariate context to produce a single score that helps firms to ascertain the financial health of their business. By considering a preliminary set of sixty-two firms, Altman builds a discriminant model which can discriminate between failing and non-failing firms. The model built proved to have a 94 percent prediction precision. Subsequently, extra datasets were included to assess the model's dependability. The firms under consideration were all public manufacturing corporations. The final discriminant function is given as follows:

$$Z = 0.12X1 + 0.14X2 + 0.33X3 + 0.006X4 + 0.999X5$$

Where X1 --- Working Capital/Total assets

X2 --- Retained Earnings/ Total assets

X3 -- Earnings Before Interest and Tax/ Total assets

X4 -- the Market value of equity/ Book value of total debt

X5 --Sales/ Total assets

Z = overall index

Altman (1968, p. 606) asserts that "a final Z-score greater than 2.99 falls into the non-bankrupt zone while those firms with a Z-score below 1.81 are all bankrupt. All firms that have a value between 1.81 and 2.99 are classified as the 'gray zone'".

The research modifies the Altman's Z-score by eliminating one component (market value of equity divided by book value to total debt). The component measures leverage which is the explanatory variable of the study.

Taffler's Model

Taffler (1983) proposed a model based on a thorough examination of a large amount of data. The model was originally designed for manufacturing and construction companies. The initial stage in developing this model, according to Taffler (1983), was to compute over 80 carefully selected ratios from the accounts of all listed industrial firms that failed between 1968 and 1976, as well as 46 randomly selected solvent industrial enterprises. The z-score model was then created by calculating the best set of ratios that, when combined and correctly weighted, discriminated optimally between the two samples using, for example, stepwise linear discriminant analysis.

The model is given as follows:

$$Z \text{ Taffler} = 3.2 + 12.18X1 + 2.5X2 - 10.68X3 + 0.029X4$$

Where Z Taffler --- Overall index

X1--- Profit before Tax/Current Liabilities

X2--- Current Assets/Total Liabilities

X3--- Current Liabilities/Total Assets

X4--- (Quick assets – current liabilities) / ((sales –profit before tax – depreciation) / 365)

Taffler asserts that an entity with a Z value above 0.3 shows good financial health whiles an entity with a Z value below 0.2 denotes bankruptcy. Entities that have a Z value between 0.2 and 0.3 are categorized as the gray zone.

Springate's Model

Gordon L.V. Springate developed this Canadian business insolvency prediction model in 1978 at Simon Fraser University, following similar procedures performed by Altman.

Springate chose four out of nineteen common financial instruments using step-wise multiple discriminate analysis. Ratios that were best able to distinguish between failing and non-failing firms were employed in the model. The model developed by Springate achieved a 92.5 percent level of accuracy in categorizing firms as failing or non-failing. The model is given in this form:

Z Springate = $1.03X1 + 3.07X2 + 0.66X3 + 0.4X4$

Where;

 Z Springate = overall index

X1--- Working Capital / Total Assets

This ratio measures the net liquid asset of the firm to its total capitalization. It looks at how well the total assets of the company can finance its working capital.

X2--- Earnings Before Interest and Taxes / Total Assets

This ratio measures the profit-generating ability of the entity's assets before deducting interest and taxes.

X3---Earnings Before Taxes / Current Liabilities

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This ratio measures the portion of the firm's earnings that are financed by short-term debts. It looks at the productive capacity of the entity's current liabilities.

X4--- Sales / Total Assets

This is a measure of the sales-generating capacity of the entity's assets. By extension, the ratio looks at management performance in dealing with their competitive environment.

Springate asserts that a company is performant if its Z value is greater than 0.826 whiles a Z score less than or equal to 0.826 is regarded as potentially bankrupt.

Capital Structure

The use of borrowed funds to undertake investment activities is known as leverage. "Debt in an entity can be categorized into short-term and long-term depending on its duration" (Muigai, 2016, p. 26). Obligations that are settled within a year are referred to as current liabilities, whereas non-current liabilities take more than a year to settled. The study employed the ratio of overall debt to equity as a measure of capital structure (Kazemian et al., 2017; Rayan 2010).

Capital Intensity

Capital intensity is the measure of a firm's investment in fixed assets. The study measures the intensity of capital as the proportion of fixed assets to total assets (Murwaningsari & Rachmawati, 2017; Nugraha & Mulyani, 2019).

Sales Growth

The study also controlled for the growth in turnover among the entities under study. The study measures sales growth as the ratio of the change in sales between the current year and the prior year to sales in the previous year (Cuong,

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2014; Kodongo et al.,2014; Maina & Ishmail, 2014). The study employed sales growth as a control variable due to empirical research that asserts that sales growth has a potential impact on a going concern. A study by Abor (2015) suggests that firms with a rise in turnover experience a rise in market value.

Firm Size

The size of the firm in this study is operationalized by the natural logarithm of total assets (Dang, Li & Yang, 2018; Muigai & Muriithi, 2017). The theoretical basis for arguing that firm size can impact a going concern is the economies of scale concept. It states that firms that operate on a large scale can benefit from a low total average cost of production since they can benefit from buying in bulk quantities and reduced interest rates.

Profitability

The profitability of an entity can influence a firm's sustainability. The study measures profitability as net income scaled by revenue (Akter & Roy, 2017; Lee et al., 2011). Husain and Sunardi (2020), assert that higher profits are associated with higher firm valuation. Thus, profitability boosts investors' confidence by giving them assurance about their investment in a company.

Board Independence

The independence of a board is operationalized by the percentage of independent non-executive directors among the board members (Liu, Miletkov, Wei & Yang, 2015; Ibrahim & Jehu, 2018). Liu et al. (2015) assert that board independence helps to minimize inefficiencies in business by constraining insider self-dealing and promoting investment efficiencies.

The Model used for the Study

The study employs the two-step system General Methods of Moments (GMM) panel estimator to estimate the research model. Arellano and Bond (1991), developed the difference GMM estimator as the first GMM estimator. They estimated an equation using "the first difference of variables and the level of lagged values of time-varying variables as instruments for the equation in differences" (Semykina & Wooldridge, 2013, p. 48). Law and Azman-Saini (2012) observed that the GMM estimator was effective in eliminating country-fixed effects and unobservable simultaneity bias.

The GMM estimation technique deals with potential endogeneity problems which may bias the results (Roodman, 2009). Arellano and Bond (1991), argued that there is the possibility of consistent estimates using GMM provided that the time dimension of the study (T) is less than its cross-section dimension (N). The T and N for non-financial firms are 11 and 14 respectively, whereas the T and N for financial firms are 9 and 10 respectively.

Model Specification

The study uses the two-step system general method of moments (GMM) estimation technique to ascertain the relationship between going concern, capital structure, and capital intensity. The GMM model is estimated using going concern as the outcome variable, leverage and capital intensity as explanatory variables; growth in sales, size of the firm, profitability, and board independence as control variables. The study also finds the moderating effect of capital intensity in the

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leverage and going concern nexus. The general form of the two-step GMM used in the study is presented in equations 1 and 2

$$GC_{it} = \gamma_0 + \gamma_1 GC_{it-\tau} + \sum_{h=1}^{n} \gamma_h \, W_{h,it-\tau} + \theta_i + \mu_i + \varepsilon_{it}$$

$$\text{(1)}$$

$$GC_{it} - GC_{it-\tau}$$

$$= \gamma_1 (GC_{it-\tau} - GC_{it-2\tau}) + \sum_{h=1}^{n} \gamma_h \, (W_{h,it-\tau} - W_{h,it-2\tau}) + (\mu_t$$

$$- \mu_{t-\tau}) + \varepsilon_{it-\tau.} + (\mu_t - \mu_{t-\tau}) + \varepsilon_{it-\tau.}$$

$$\text{(2)}$$

GC_{it} represents the going concern for firm i during time t; γ_0 denotes a constant of the model which is not affected by any changes in the variables, W denotes a vector of the variables that are controlled in the study (leverage, capital intensity, sales growth, firm size, profitability, and board independence); τ denotes the coefficient of autoregression, which is one for the specification, μ_t denotes the time-specific constant, while θ_i represents the firm-specific effect, and ε_{it} denotes the error term. A priori, the explanatory indicators are expected to be endogenous, but we consider the time-invariant variables as strictly exogenous (Roodman, 2009b). The appropriateness of this analogy has been confirmed in recent studies such as Agyei et al. (2021) and Boateng, Asongu, Akamavi and Tchamyou (2018).

The empirical model for finding the relationship between the study variables is set in equations (3) and (4).

$$GC_{it} = \beta_1 GC_{it-1} + \beta_2 LEV_{it} + \beta_3 CAP_{it} + \beta_4 SG_{it} + \beta_5 1nFS_{it} +$$

$$\beta_6 PR_{it} + \beta_7 BI_{it} + \mu_{it} + \varepsilon_{it} \hspace{3cm} (3)$$

$$GC_{it} = \beta_1 GC_{it-1} + \beta_2 LEV_{it} + \beta_3 CAP_{it} + \beta_4 CIXLEV_{it} + \beta_5 SG_{it} + \beta_6 1nFS_{it} +$$

$$\beta_7 PR_{it} + \beta_8 BI_{it} + \mu_{it} + \varepsilon_{it} \hspace{3cm} (4)$$

GC_{it} represents going concern; GC_{it-1} represents the lag of going concern; LEV_{it} represents financial leverage; CAP_{it} represents capital intensity; $CIXLEV_{it}$ represents the interaction of leverage and capital intensity; SG_{it} represents sales growth; $1nFS_{it}$ represents the natural log of firm size; PR_{it} represents profitability; BI_{it} represents board independence; μ_i represents the firm invariant factors and ε_{it} represents the error term. The subscript (it) refers to the firm and period respectively.

The study uses three proxies to measure going concern; modified Altman's Z-score, Taffler's Z-score and Springate's score. The independent variable of the study is leverage and capital intensity. The study controls for four variables widely known in the general finance literature to influence going concern; sales growth, firm size, profitability, and board independence.

The GMM assumes a linear regression model with an endogenous regressor:

$$y = X^I \beta + \cup$$

Where;

y and u are N x 1 vectors

β is a K x 1 vector of unknown parameters

X is a N x K matrix of explanatory variables

Because of the assumption of endogeneity, it assumes another matrix Z that is N x L.

Where, L > K

The Z matrix is assumed to comprise a set of variables that are highly correlated with X but orthogonal to $\cup$ (A set of valid instruments). The study employs Sargan's test of overidentifying restriction to ascertain the validity of the research instrument. The null hypothesis of Sargan's test states that the instrument is valid. Therefore, failure to reject the null hypothesis is an indication that the instruments used are valid. The study also tests for serial correlation using the Arellano and Bond test of autocorrelation for second-order serial correlations in first difference errors. The null hypothesis of the Arellano and Bond test AR (2) states that there is no autocorrelation. Therefore, failure to reject the null hypothesis that the disturbance term is uncorrelated means the model estimator is consistent and the moment's condition is correctly specified.

Chapter Summary

The methodology employed in the study has been outlined in detail. The study adopted the quantitative research design to accomplish its objectives. Using a purposive sampling technique, 14 non-financial firms and 10 financial firms were selected to achieve the study's objective. The data set for non-financial firms covered eleven years whereas the data set for financial firms covered nine years. The study adopted the GMM estimation technique to develop the empirical model.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

Detailed analysis of the data used and discussions of the empirical findings are covered in this section. The chapter provides empirical evidence for the research objectives. The study employs the general method of moments model to assess the moderating effect of capital intensity in the leverage and going concern nexus. The research uses a data set that spans 2010 to 2020 for non-financial firms and 2012 to 2020 for financial firms. The study was conducted on 14 non-financial firms and 10 financial firms.

Descriptive Statistics

The descriptive statistics of both financial and non-financial firms are presented in Tables 2 and 3 respectively. The average Adjusted Altman's Z-score was 1.21 among non-financial institutions and 0.308 among financial institutions. The scores show that on average enterprises on the Ghana stock market can be categorised as financially distressed, however, the average distress level of financial listed firms is worse than non-financial listed firms. The average Taffler's score was -2.713 for non-financial enterprises and -5.066 for financial enterprises. The average value of Springate's score was around 0.843 for non-financial enterprises and 0.697 for financial enterprises. The results depict that the average distress level for both financial and non-financial firms is very high and merits the categorisation of bankruptcy under the three prediction models. The

results, however, show that the average distress level of financial enterprises exceeds that of non-financial enterprises.

Table 2: Descriptive Statistics for Financial Firms

Variable	Obs	Mean	Std. Dev.	Min	Max
ALT	90	.308	.672	-.581	4.137
TAF	90	-5.066	112.27	-171.6	737.62
SPR	90	.697	2.573	-.523	21.25
LEV	90	17.86	15.92	.061	84.12
SG	90	.327	.804	-.998	5.796
FS	90	9.29	.577	7.74	10.20
PR	90	44.24	55.2	-37.96	349.80
CAP	90	.573	.23	0.01	.983
BI	90	.747	.107	.5	.909

Source: Stata Output (2022)

Note: ALT refers to adjusted Altman's score, TAF refers to Taffler's score, and SPR refers to Springate's score. LEV refers to leverage, CAP refers to capital intensity, SG refers to sales growth, FS denotes firm size, PR denotes profitability, BI denotes board independence.

The average debt to equity for non-financial firms was 24.79 (with a standard deviation of 57.4) whiles that of financial firms was 17.86 (with a standard deviation of 15.9). The results show that on average, non-financial enterprises are more geared than financial enterprises. Again, the capital intensity ratio of non-financial enterprises is 0.572 (and a deviation from the mean by 0.21)

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whiles that of a financial firm was 0.573 (and a deviation from the mean by 0.23).

The average capital intensity ratio of both firms is very close.

Table 3: Descriptive Statistics for Non-Financial Firms

Variable	Obs	Mean	Std. Dev.	Min	Max
ALT	154	1.212	2.17	-4.845	5.875
TAF	154	-2.713	19.977	-71.358	95.987
SPR	154	.843	1.351	-3.676	5.588
LEV	154	24.739	57.408	.346	359.457
CAP	154	.572	.21	.107	.93
SG	154	.106	.438	-.999	2.937
FS	154	8.107	.967	5.979	10.061
PR	154	-1.881	28.328	-156.633	50.561
BI	154	.658	.262	0	.909

Source: Stata Output (2022)

Note: ALT refers to adjusted Altman's score, TAF refers to Taffler's score, and SPR refers to Springate's score. LEV refers to leverage, CAP refers to capital intensity, SG refers to sales growth, FS denotes firm size, PR denotes profitability, BI denotes board independence.

The average growth in revenue for non-financial firms was 10.6% (with a standard deviation of 43.8%) whiles financial firms experienced a growth in revenue of 32.7% (and a deviation from the mean of 80.4%). This shows that financial firms are able to put in place better strategies to increase revenue generation. The average profit margin for non-financial firms was -1.88% (with a standard deviation of 28.3%) whiles that of financial firms was around 44.2%

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(with a standard deviation of 55.2%). Thus, financial firms are more efficient in maximizing returns on investment than non-financial firms. The average proportion of independent directors to total directors was 0.658 for non-financial enterprises and 0.747 for financial enterprises. Thus the board composition of an average financial firm is made up of more non-executive directors than an average non-financial firm.

Correlation Matrix

The study used the outcome of the correlation matrix to ascertain the possibility of going concern persistence. Empirical evidence suggests that the outcome variable is persistent when the dependent variable and its one-year lag have a correlation coefficient of 0.800 and above (Agyei et al., 2019; Asongu & Acha-Anyi, 2018). The results as outlined in Table 4 and Table 5 unveiled that the outcome variables and their one-year lags; Adjusted-Altman, Taffler, and Springate had a correlation coefficient of 0.876, 0.914, and 0.803 respectively for financial firms. The results for non-financial firms reported a correlation coefficient of 0.908, 0.841, and 0.876 between outcome variables (the adjusted Altman, Taffler, and Springate) and their one-year lags respectively. The persistence of going concern show that going concern uncertainties in organisations develop gradually over time and pose business sustainability challenges in the near future.

More so, the study ascertained the pairwise correlation among the regressor variables using the correlation matrix. The analysis looks for multicollinearity among the explanatory variables, which might impair the accuracy of the results.

Following Agyei et al. (2020), the study adopts a general benchmark of 0.7 as the cut-off point. Table 4 and Table 5 present the correlation matrix of the regressor variables of financial enterprises and non-financial enterprises respectively. As revealed from the results, the incidence of multicollinearity was minimal. The correlations between the pairs of the independent and control variables show that the model was immune from multicollinearity.
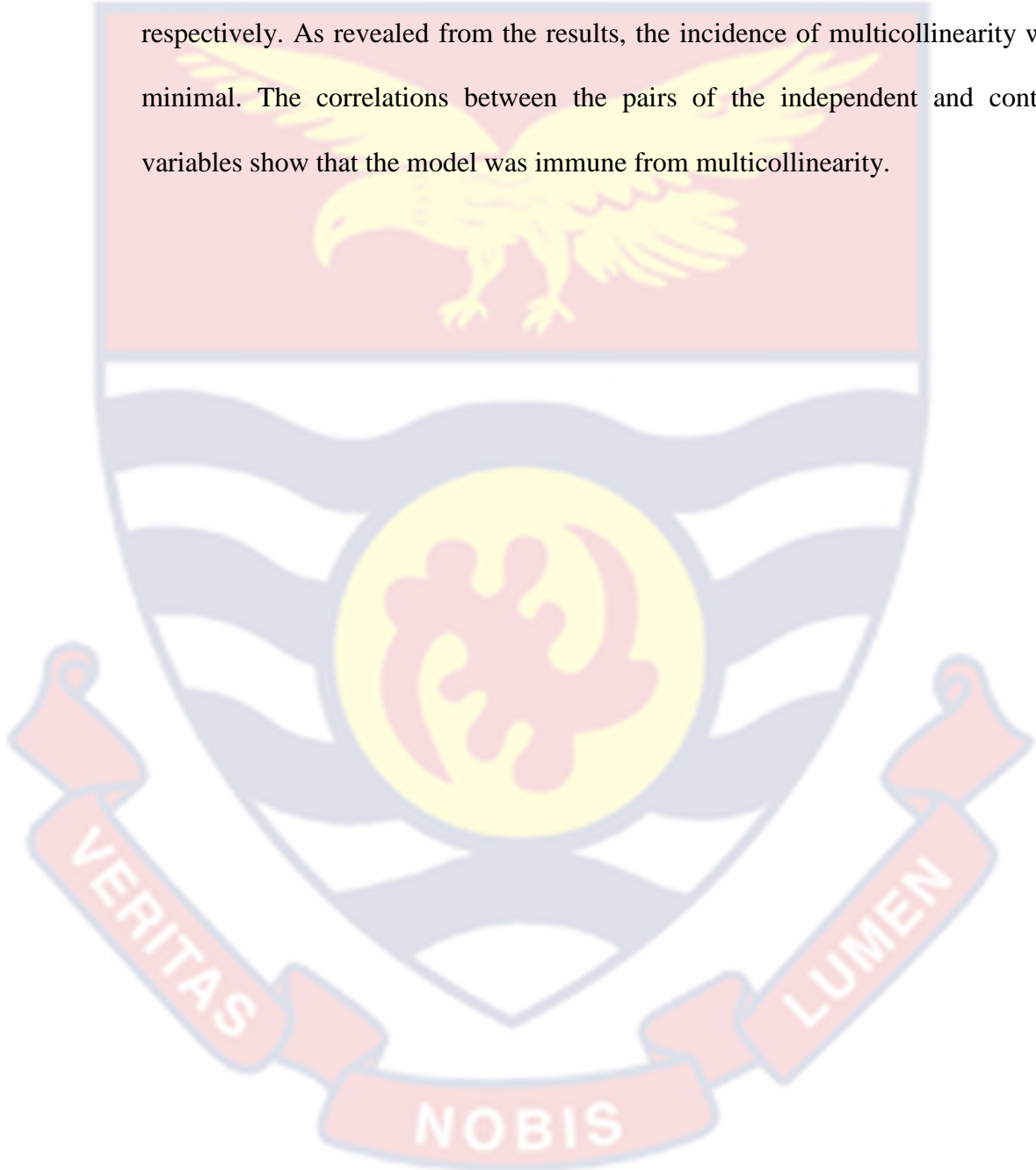
Table 4: Correlation Matrix for Financial Firms

Variables	(ALT)	(TAF)	(SPR)	(LEV)	(CAP)	(SG)	(FS)	(PR)	(BI)
ALT	1.000								
TAF	0.623***	1.000							
SPR	0.847***	0.698***	1.000						
LEV	-0.208**	-0.203*	-0.241**	1.000					
CAP	-0.025	-0.130	0.128	-0.349***	1.000				
SG	0.103	0.025	0.179*	-0.110	0.035	1.000			
FS	-0.523***	-0.270**	-0.437***	0.538***	-0.231**	-0.036	1.000		
PR	0.211**	0.027	0.160	0.092	0.055	-0.003	0.148	1.000	
BI	0.092	0.020	0.135	-0.380***	0.242**	0.026	-0.314***	-0.210**	1.000
L.ALT	0.876***								
L.TAF		0.914***							
L.SPR			0.803***						

Source: Stata Output (2022)

Note. Note. Going concern is measured by three variables, namely, adjusted Altman, Taffler, and Springate. ALT refers to adjusted Altman's score, TAF refers to Taffler's score, and SPR refers to Springate's score. LEV refers to leverage, CAP refers to capital intensity, SG refers to sales growth, FS denotes firm size, PR denotes profitability, BI denotes board independence, L.ALT refers to the lag of adjusted Altman, L.TAF, refers to the lag of Taffler, and L.SPR refers to the lag of Springate. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

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Table 5: Correlation Matrix for Non-Financial Firms

Variables	(ALT)	(TAF)	(SPR)	(LEV)	(CAP)	(SG)	(FS)	(PR)	(BI)
ALT	1.000								
TAF	0.529***	1.000							
SPR	0.814***	0.812***	1.000						
LEV	0.043	-0.058	-0.056	1.000					
CAP	-0.54***	-0.155*	-0.403***	-0.26***	1.000				
SG	0.232***	0.171**	0.210***	-0.037	-0.253***	1.000			
FS	0.063	0.081	0.074	0.19**	0.286***	-0.135*	1.000		
PR	0.529***	0.633***	0.698***	-0.013	-0.272***	0.272***	0.046	1.000	
BI	0.230***	0.197**	0.321***	-0.080	0.181**	-0.155*	0.564***	0.199**	1.000
L.ALT	0.908***								
L.TAF		0.841***							
L.SPR			0.876***						

Source: Stata Output (2022)

Note. Going concern is measured by three variables, namely, adjusted Altman, Taffler, and Springate. ALT refers to adjusted Altman's score, TAF refers to Taffler's score, and SPR refers to Springate's score. LEV refers to leverage, CAP refers to capital intensity, SG refers to sales growth, FS refers to firm size, PR refers to profitability, BI refers to board independence, L.ALT refers to the lag of adjusted Altman, L.TAF, refers to the lag of Taffler, and L.SPR refers to the lag of Springate. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 2 is a line chart that portrays the relationship between leverage and the measures of going concerned, namely, Taffler, Springate, and adjusted Altman for financial firms. The figure depicts changes in the individual measures of going concerned and leverage of financial firms across different periods. Figure 3 depicts the trend of capital intensity and going concern for financial institutions across the study's time horizon. Figures 4 and 5 depict how the distress level of non-financial institutions changes over time and with their leverage and capital intensity ratio.

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Figure 2: A line chart of leverage and going concern of financial firms

Source: Microsoft Excel Output (2022)

Figure 3: A line chart of capital intensity and going concern of financial firms
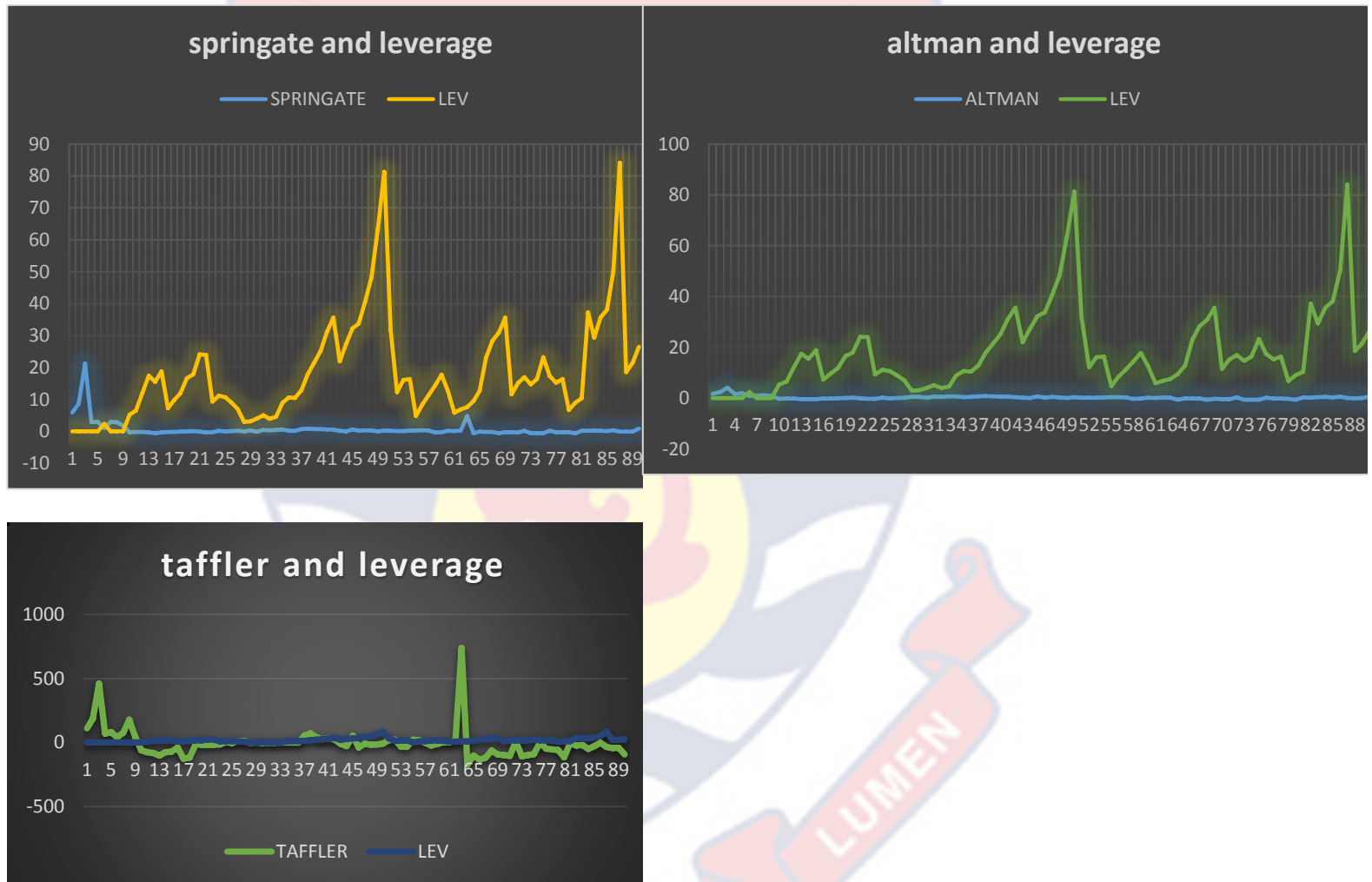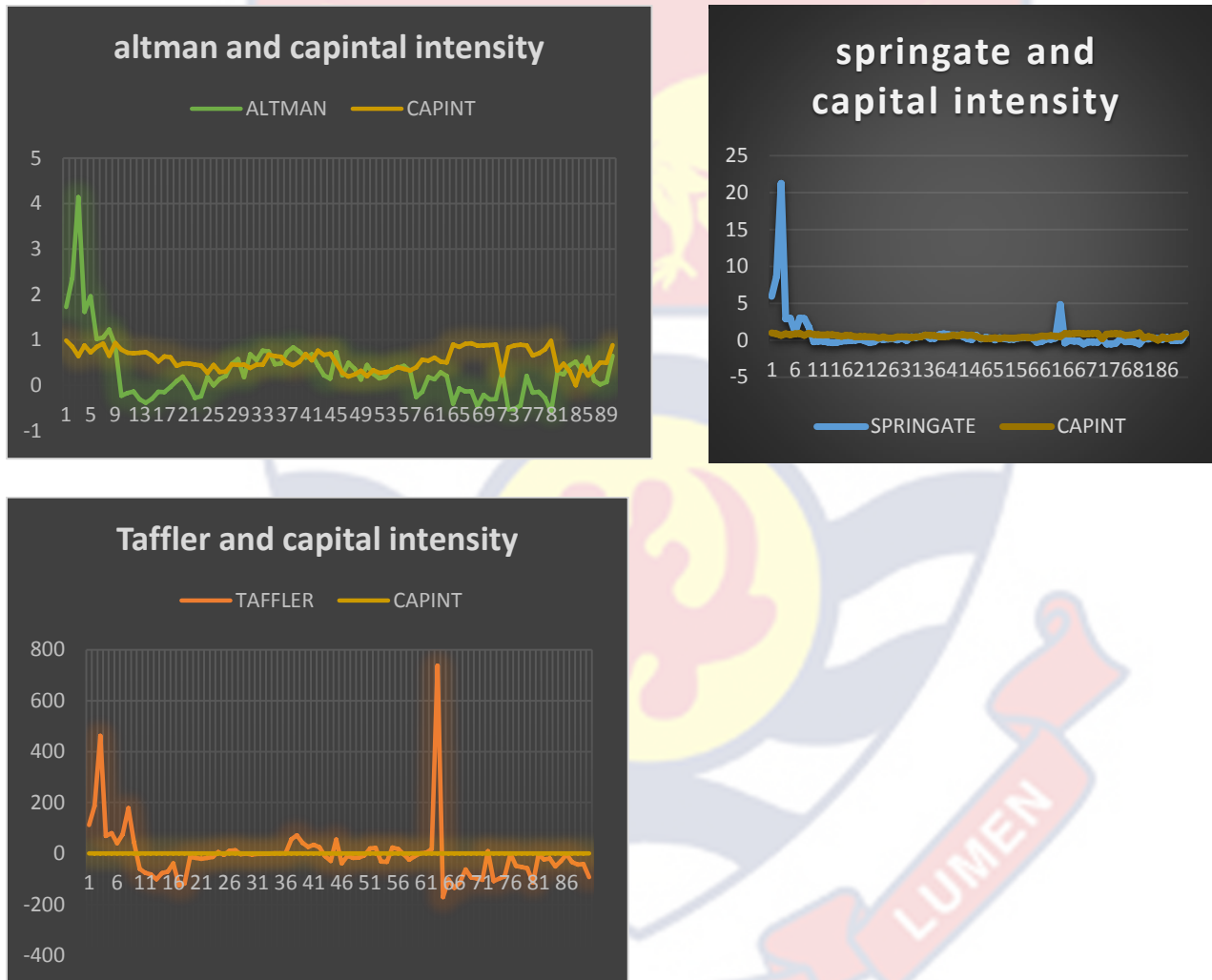
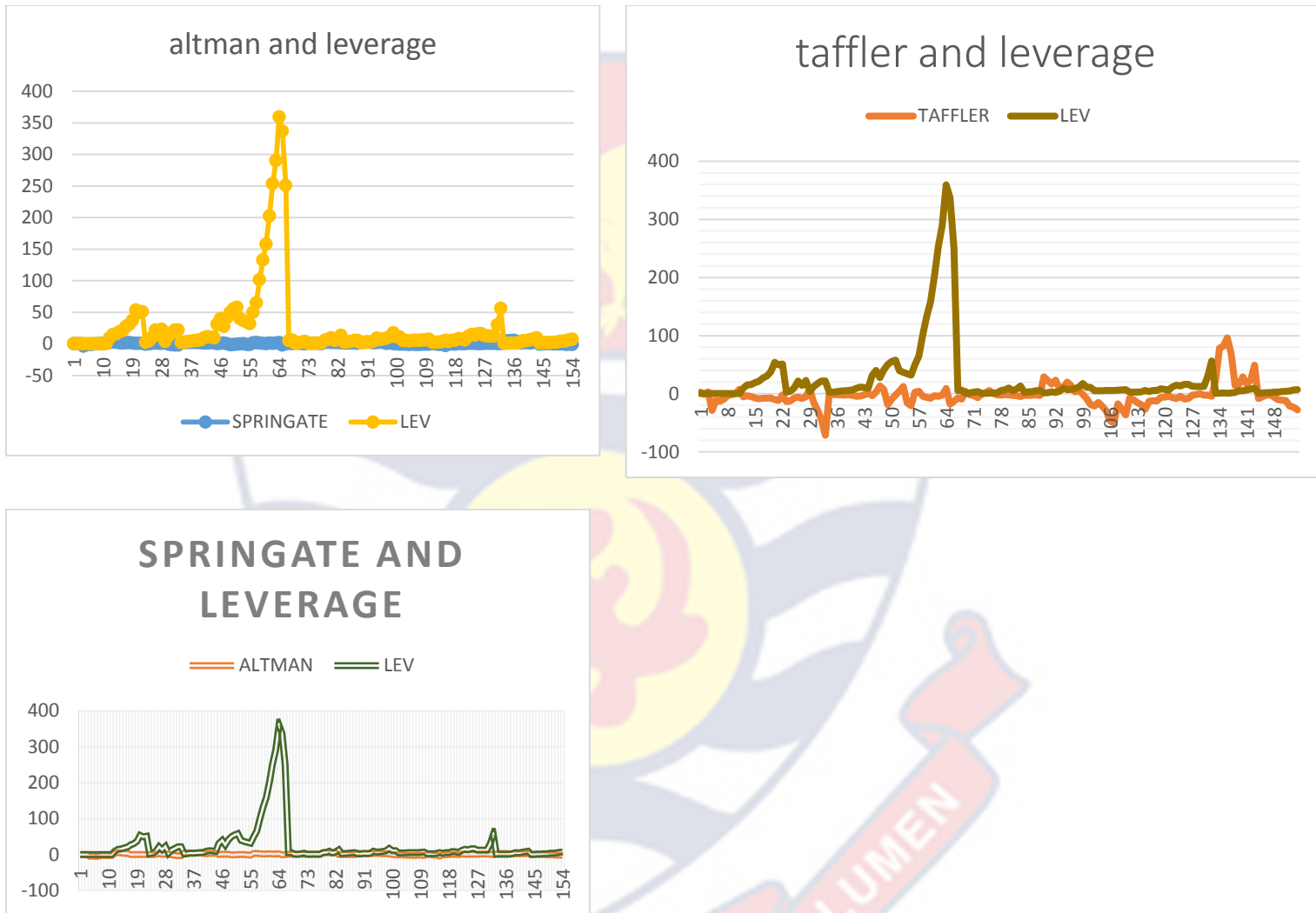Source: Microsoft Excel Output (2022)

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Figure 4: A line chart of leverage and going concern of non-financial firms

Source: Microsoft Excel Output (2022)
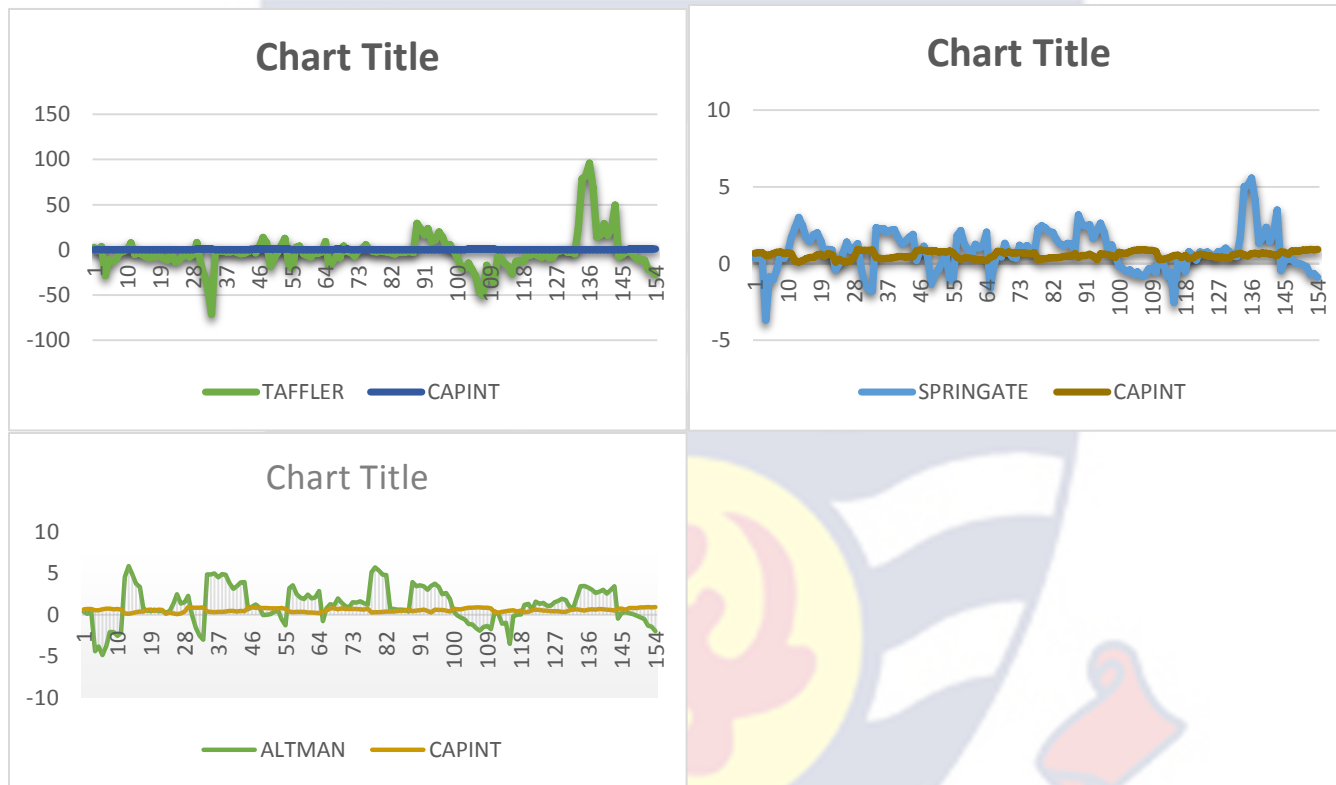
Figure 5: A line chart of capital intensity and going concern of non-financial firms

Source: Microsoft Excel Output (2022)

Discussion on model assumptions

Mileva (2007) espoused that the null hypothesis of the AR(1) process in the first difference should be rejected since it states that there is autocorrelation. However, AR(2) has a null hypothesis that there is no autocorrelation. The results of the study as presented in Tables 6 and 7 show that at a significant level of 5% all the p-values of AR (1) showed a rejection of the null hypothesis (implying that there was no autocorrelation). More so, the results of both Tables 6 and 7 showed a non-rejection of the p-values of the AR (2) (implying that there was no autocorrelation). The Sargan test, as shown in all the models reveals that the instrument used in the study has appropriate exclusion restrictions. Again, there was no instrument proliferation in any of the models since the number of instruments was not many as the number of cross-sections

Discussion of empirical results

The regression outcome of the general method of moments estimator is presented in Tables 6 and 7. Table 6 contains the regression results for financial firms and Table 7 contains the results for non-financial enterprises. The results of the study are robust to a battery of tests including endogeneity checks, persistence checks of the dependent variables with their one-year lags, and check of multicollinearity of the regressor variables. A comparison of the number of instruments with the number of firms proves that there was no instrument proliferation in the research model. More so, the outcome from autocorrelation, Sargan and Hansen J test prove the exogeneity of the research instrument.

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The results in Tables 6 and 7 depict that the preceding year going concern status of a firm influences its succeeding year going concern status. The lagged values of the discriminant scores showed a positive and substantial relationship at the 1% level of significance with their respective scores. This implies that firms that want to achieve a good going concern status and avoid financial bankruptcy in the future must work swiftly on their current distress level. Thus, going concern challenges accumulates gradually in organizations and poses business sustainability challenges for firms.

Regression Results in the Effects of Leverage on the Going Concern of Listed Firms in Ghana

From Table 6, the results showed a positive and significant relationship between leverage and the individual measures of going concern (adjusted Altman, Taffler, and Springate) at the 5% level of significance for financial firms. The outcome depicts that leverage plays a key role in ensuring business sustainability in the financial sector. This positive effect of leverage on the going concern for financial firms was anticipated since the fundamental activity of financial institutions is to mobilize funds from different sources such as debt financing. This modus operandi of promoting liquidity helps financial institutions to allocate and reallocate savings and investments into profitable ventures.

More so, financial institutions such as commercial banks lend money to outsiders at a cost that is higher than the cost of acquiring those funds. Customer deposits which constitute a major portion of banks' debt enable them to achieve business sustainability.

Table 6: Regression Results for Financial Firms

Variables	(1) ALT	(2) ALT	(1) TAF	(2) TAF	(1) SPR	(2) SPR
L.ALT	0.949***	0.786***				
	(0.301)	(0.185)				
L.TAF			0.523***	0.347***		
			(0.120)	(0.0739)		
L.SPR					0.841***	0.425***
					(0.260)	(0.160)
LEV	0.0227**	0.00520	5.492**	0.831	0.105**	0.0464
	(0.0101)	(0.00980)	(2.593)	(0.980)	(0.0465)	(0.0392)
CAP	7.536***	1.669	741.7***	252.3***	16.51***	9.151***
	(1.976)	(1.236)	(280.4)	(81.41)	(2.323)	(0.923)
CIXLEV		0.000363		5.516***		0.279
		(0.0118)		(1.869)		(0.268)
CONTROL VARIABLES						
SG	-0.116	-0.129	-0.407	5.627	2.264***	0.217

	(0.245)	(0.140)	(8.553)	(8.788)	(0.321)	(0.332)
FS	0.829	-0.449	-91.53	-0.731	15.26***	5.095*
	(1.190)	(0.310)	(328.1)	(46.05)	(2.060)	(2.4097)
PR	0.00941*	0.00350*	0.405	0.154	0.0178	0.00323
	(0.00465)	(0.00173)	(0.395)	(0.106)	(0.0291)	(0.00644)
BI	13.58	1.024**	561.6	514.9	6.703***	6.378
	(8.827)	(0.485)	(483.3)	(415.4)	(2.219)	(24.08)
DIAGNOSTICS						
AR(1):z	-1.34	-1.37	-1.92	-1.70	-1.31	-1.24
p-value	0.181	0.169	0.054	0.089	0.189	0.216
AR(2):z	-1.26	1.30	0.60	0.26	1.21	1.59
p-value	0.207	0.192	0.550	0.796	0.226	0.112
Sargan chi2	2.91	4.23	0.80	2.95	0.62	4.72
Prb.(Sargan)	0.405	0.237	0.849	0.566	0.891	0.095
Hansen OIR	3.13	2.06	2.54	1.13	1.25	1.38
Prb.(Hansen)	0.372	0.561	0.468	0.889	0.742	0.502

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Number of instruments	10	10	10	10	10	10
Observations	70	70	70	70	70	70
Number of firms	10	10	10	10	10	10

Source: Field survey (2022)

Note: Going concern is measured by three variables, namely, adjusted Altman, Taffler, and Springate. ALT refers to adjusted Altman's score, TAF refers to Taffler's score, and SPR refers to Springate's score. LEV refers to leverage, CAP refers to capital intensity, CIXLEV refers to the interaction between leverage and capital intensity, SG refers to sales growth, FS denotes firm size, PR denotes profitability, BI denotes board independence, L.ALT refers to the lag of adjusted Altman, L.TAF, refers to the lag of Taffler, and L.SPR refers to the lag of Springate. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The result of the study was in stark contrast with the assertion by Myers and Maljuf (1984), that external sources of funding including debt financing are expensive due to the asymmetry of information between management teams and external stakeholders. Consequently, the expensive cost of capital will translate into higher prices of products and services and render firms incapable of competing in the market. The result was also in contrast with the assertion by Myers (1977), that a rise in debt usage raises the risk of bankruptcy.

Table 7: Regression Results for Non-Financial Firms

Variables	ALT	ALT	TAF	TAF	SPR	SPR
L.ALT	0.971***	0.961***				
	(0.255)	(0.236)				
L.TAF			0.739***	1.035***		
			(0.230)	(0.186)		
L.SPR					1.068***	2.244**
					(0.350)	(0.985)
LEV	-0.0230**	-.046***	-.252***	-1.644**	-.237***	-0469***
	(0.0108)	(0.00869)	(0.014)	(0.648)	(0.00669)	(0.0160)
CAP	-6.139**	-.569***	-2.59***	-57.8***	-2.04***	-4.72***
	(2.863)	(0.170)	(0.142)	(22.31)	(0.439)	(0.461)
CIXLEV		0.0620**		2.714***		0.0857**
		(0.0289)		(0.628)		(0.0421)
CONTROL VARIABLES						
SG	3.498***	2.716***	24.29	32.74***	1.022*	0.468*

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	(0.884)	(0.870)	(16.35)	(11.26)	(0.490)	(0.263)
FS	1.413	3.963***	104.0***	221.7***	3.395***	4.384**
	(1.052)	(1.484)	(12.43)	(50.81)	(0.323)	(2.030)
PR	0.0396***	0.00225	-0.335	-0.162	0.0348**	0.0856**
	(0.0113)	(0.0161)	(0.369)	(0.148)	(0.0161)	(0.0403)
BI	3.730**	3.044***	49.07	200.0**	6.905*	4.003
	(1.501)	(0.973)	(34.62)	(83.83)	(3.509)	(11.06)
DIAGNOSTICS						
AR(1):z	-1.89	-2.18	0.32	-0.99	-1.97	-0.59
p-value	0.059	0.029	0.746	0.323	0.049	0.558
AR(2):z	0.31	1.11	0.39	1.21	-0.43	-0.30
p-value	0.757	0.269	0.697	0.227	0.668	0.764
Sargan chi2	3.59	4.29	3.75	1.43	5.25	2.48
Prb.(Sargan)	0.826	0.637	0.710	0.921	0.629	0.871
Hansen OIR	6.15	5.88	6.43	2.98	6.59	2.44
Prb.(Hansen)	0.523	0.437	0.376	0.703	0.473	0.875
Number of instruments	13	13	13	13	13	14
Observations	126	126	126	126	126	126
Number of firms	14	14	14	14	14	14

Source: Field survey (2022)

Note. Going concern is measured by three variables, namely, adjusted Altman, Taffler, and Springate. ALT refers to adjusted Altman's score, TAF refers to Taffler's score, and SPR refers to Springate's score. LEV refers to leverage, CAP refers to capital intensity, CIXLEV refers to the interaction between leverage and capital intensity, SG refers to sales growth, FS denotes firm size, PR denotes profitability, BI denotes board independence, L.ALT refers to the lag of adjusted Altman, L.TAF, refers to the lag of Taffler, and L.SPR refers to the lag of Springate. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Myers (1977) debated that firms that employ too much debt expose themselves to the risk of bankruptcy when they falter on paying the interest and its principal. However, the finding of the study supported the assertion put forward by Ross (1977) that leverage is positively related to firm sustainability. Ross proposed the signaling theory on the argument that debt financing gives a message to the market that leadership is hopeful about the financial health and upcoming earnings of the entity since failure to pay the interest on the debt will result in bankruptcy.

The outcome of the study supported the research conducted by Umar et al. (2012), who observed a strong and favorable relationship between financial leverage and financial health measures of EPS, net profit margin, and EBIT. The study was also consistent with the finding of Onyewe and Glory (2017) who observed that leverage had a favorable impact on the profitability and efficiency of firms in Nigeria. The result of the research was however in contrast with the work of Ipkesu and Osazemen (2018), on the impacts of leverage on the distress

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level of enterprises in Nigeria. The study found that leverage was negatively related to Altman's measure of financial distress.

A study by Muigai (2016), revealed that leverage was unfavorably related to Altman's measure of financial distress. Muigai observed that studies on the effect of leverage on business sustainability seem to be broad in scope but narrow in dept. This research, therefore, provides important evidence that leverage improves the going concern status of financial companies trading on the Ghanaian securities market.

The study also presents the results on the impact of leverage on the going concern status of non-financial companies. As depicted in Table 7, the results reveal that leverage is negatively and significantly connected to all the individual measures of going concern, namely, adjusted Altman, Taffler, and Springate. The study shows that the negative influence of leverage on the going concern was significant at 5%, 1%, and 1% significance levels for adjusted Altman, Taffler, and Springate respectively. In stark contrast with the outcome for financial enterprises, Table 7 shows that leverage had a worsening impact on the going concern of non-financial firms. The results for non-financial firms support the moral hazard problem put forward by Jensen and Meckling (1976). They opined that lenders try to mitigate the potential loss emanating from lending by hiring the services of professionals and financial analysts to introduce debt covenants and restrictions which makes the cost of borrowing expensive for firms. It can be deduced that the increase in the cost of borrowing may have increased expenses, and consequently the cost of the product. A high cost of the company's product

relative to the price of competitors may render the firm uncompetitive in the market and raise the issue of business sustainability.

The results of the study also buttressed the assertion by Myers and Maljuf (1984). Deducing from their assertion, the information asymmetry between lenders and management may have caused the cost of debt to be high for non-financial firms. A company with a high cost of debt may transfer it to customers in the form of price increments and may end up losing its market share. The results for non-financial firms were however in contrast with Ross' (1977) assertion.

The result of the study supports the work of Ryan (2010), who reported an unfavorable relationship between financial leverage and all the measures of business value, namely, ROE, ROA, EPS, P/E ratio, and economic value-added. More so, the finding corroborated the work of Pratheeepkanth (2011), who discovered that leverage increases the distress level of firms in Sri Lanka.

Likewise, the study confirmed the work by Muigai (2016), who observed an unfavorable relationship between leverage and Altman's score among companies in Kenya. The result of the study was however variant with the observation by Umar et al. (2012) that leverage improved Altman's score of companies in Pakistan. Hung et al. (2002) also reported a favorable relationship between leverage and business sustainability among companies in Hong Kong. This study supports the literature on financial leverage by providing a shred of empirical evidence that leverage worsens the going concern status of non-financial listed companies in Ghana.

A comparative examination of the influence of leverage on the going concerns has produced different results among financial and non-financial enterprises. Thus, while leverage may ameliorate the distress level of financial firms, it may aggravate the distress level of non-financial firms. The literature on leverage has pointed out that leverage increases the risk of firms (Myers, 1977). The results prove that financial firms are better able to handle the risk that comes with debt financing than non-financial enterprises. The work highlights that the nature of financial institutions better positions them to handle the risk that comes with borrowing. Financial services such as factoring, securitization, and credit rating performed by financial firms enable them to reduce risk, share risk, and transfer risk to other people. Also, the business of allocating savings and investment into profitable ventures enables financial firms to benefit from borrowing. Lastly, it can also be deduced that financial firms obtain debts (in the form of customer deposits) at a lower cost and lend these funds to non-financial firms (who borrow from banks) at a higher rate. Thus, non-financial firms become the indirect bearers of the high cost of debt.

Regression Results in the Effect of Capital Intensity on the Going Concern of Listed Firms in Ghana

Also, the researcher observed a significant positive relationship between capital intensity and going concern of financial companies. The outcome, as depicted in Table 6 portrays that capital intensity was positively and significantly related to all the individual measures of going concern, namely, adjusted Altman, Taffler and Springate at the 1% significant level. Thus, financial firms can reduce

their distress level and achieve a good going concern status by increasing their investment in fixed assets. A substantial investment in fixed assets such as buildings will enable the firm to reduce its subsequent cost of operations which will come in the form of hiring, renting, or leasing an apartment. This reduction in the cost of operation enables them to offer low-cost services to the market, expand their market share and stay competitive.

The concept of capital allowance is also one of the major theoretical justifications for the positive influence of capital intensity on the going concern of firms. Firms that employ fixed assets are given a standardized deductible allowance on depreciable assets they own and use in producing the income of the business. Thus, firms that employ a lot of fixed assets can benefit from tax credits which can help reduce their financial burden. In Ghana, capital allowance is given to firms to reduce their tax burden provided certain conditions are fulfilled.

Another theoretical justification for the positive influence of capital intensity on a company's going concern is that capital-intensive firms can mitigate the risk that is associated with borrowing (risk increases the cost of borrowing) by providing fixed assets as collateral securities in the time of debt financing. Providing collateral securities in a debt contract can diminish the risk of the lender and consequently the cost of borrowing.

It is also observed that the value of most fixed assets (especially land) appreciates with time. Firms with substantial investment in assets that appreciates with time can benefit from fair value gains when these assets are revalued. As outlined in International Accounting Standards (IAS) 16, firms can also benefit

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from gains on disposal when assets are sold at a price above their historical cost. This can provide a financial cushion and reduce going concern challenges for the firm.

The outcome of the work corroborated the work of Lee et al. (2011) who observed that investment in fixed assets had a positive and significant relationship with Altman's score in the United States restaurant industry. Also, the study supports the empirical findings of Akintoye (2009) who argued that the size of an organization's assets determines its scale of operation. He argued that firms that operate on a large scale can achieve a boost in their revenue which can ensure business sustainability. The study was, however, in contrast with the work of Elmasr (2007) who found a negative connection between investment in fixed assets and firm performance.

The study also reports on the effects of capital intensity on the going concern of non-financial listed companies in Ghana. The results, as presented in Table 7 show that capital intensity may have an aggravating impact on the distress level of non-financial institutions. The outcome reveals a negative and significant relationship between capital intensity and going concern of non-financial firms. All the individual measures of going concern namely, adjusted Altman, Taffler, and Springate exhibit a negative and a significant relationship with going concern. It can be deduced that substantial investment in fixed assets poses liquidity problems for the entities. Firms that experience a challenge with their working capital have difficulty financing their daily operations.

The result was in line with the findings of Elmasr (2007) who opined that capital-intensive companies depend solely on investment in fixed assets to be sustainable and this can easily be reproduced by competitors. The ease of replication encourages tough competition, weak pricing, and consequently reduction in return on capital.

Regarding the negative effect of capital intensity on business sustainability, Peterson (1994), also adds that investment in fixed assets attracts a yearly depreciation expense. This constant depreciation expense may pose a detrimental impact on the going concerns when a firm experiences a contraction in sales volume in a particular period. When the sales volume of firms drops in a period, the value of depreciation set off against the firm's revenue on the balance sheet can reduce profitability drastically and pose a challenge on going concern. For instance, a firm with an average sales value of GHC 20,000 and a yearly depreciation expense of GHC 5,000 may face going concern challenges when the firm records a sales value of GHC 3,000 in a particular period. The finding from the study was also consistent with the work of Gamlath and Yogendrarajah (2013) but contradicted the findings of Korir (2021), who discovered that capital intensity had a positive influence on business sustainability.

Juxtaposing the results of financial and non-financial enterprises shows a difference in results. The outcome reveals that while substantial investment in fixed assets may help reduce the distress level of financial institutions, it may pose a continuity challenge for non-financial firms. The difference in empirical outcome among the two categories can be linked to the impact a substantial

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investment in PPEs will have on their liquidity levels. Financial institutions, especially banks, have access to customer deposits daily. Even when a substantial investment is made in fixed assets, an increase in customers' deposits enables them to have access to cash. Thus, financial institutions can benefit from high liquidity levels even when they invest in fixed assets as compared to non-financial institutions. This helps them to sustain the activities of the business.

Regression Results in the Moderating Effect of Capital Intensity in the Leverage and Going Concern Nexus

Also, the study observed the moderating effect of capital intensity in the leverage and going concern nexus. After adjusting for other potential confounders (sales growth, size of firm, profitability, and corporate governance), Tables 6 and 7 depict that capital intensity has a positive and significant influence on the relationship between leverage and going concern for financial and non-financial firms.

Table 6 reveals that the moderator variable has a positive and significant relationship (1%) with the Springate measure of going concern for financial firms. The results reveal a favorable but insubstantial relationship with the measures of adjusted Altman and Taffler. This means that, as financial companies expand their investment in fixed assets, it promotes the positive effect of leverage on their going concern. Thus, investment in fixed assets may complement debt financing in reducing the distress level of firms. Taking into account the positive impact of leverage on the going concern of financial companies, the positive moderating

role of capital intensity can be construed as firms using their investment in fixed assets as collateral security to increase access to debt financing.

Table 7 also shows that capital intensity provides a positive and significant moderating effect in the leverage and going concern nexus of non-financial firms. It reveals that the moderator variable is positive and substantial at 5%, 1%, and 5% with adjusted Altman, Taffler, and Springate respectively. Since leverage poses a going concern challenge for non-financial firms (as depicted in Table 7), the favorable moderating role of capital intensity is construed: as non-financial firms increase their capital intensity, the amount of leverage's deteriorating influence on going concern diminishes. The finding implies that capital-intensive companies may use their investment PPEs as collateral security to reduce the risk of lenders and consequently reduces the cost of borrowing (Duarte et al., 2017; Luck & Santos, 2019). A company may use its investment in property, plant, and equipment as collateral security, particularly in distress situations (Charalambakis et al., 2008). This implies that non-financial firms with high investment in a fixed asset may need to worry less about leverage's devastating effect on going concerns as compared to firms with low investment in fixed assets.

Juxtaposing the results of the moderating effect of capital intensity in the leverage and going concern nexus for financial and non-financial firms has produced the same outcome. From Tables 6 and 7, it is evidenced that capital-intensive firms may reduce the devastating impact caused by leverage or promote the positive impact of leverage through the provision of collateral security in a period of debt financing.

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Discussion on Control Variables

The study also presents results for the control variables used for the study. As depicted in Tables 6 and 7, growth in sales level had a favorable and substantial relationship with the going concern of both financial and non-financial enterprises. Table 6 revealed that sales growth was positive and significant (1%) with Springate's score for financial firms. However, the results depicted an insignificant negative relationship with adjusted Altman and Taffler's scores. Regarding the positive relationship, financial institutions can reduce their distress level by expanding their market share to achieve an increase in revenue.

Also, table 7 shows that sales growth was positive and significant (1%) with adjusted Altman's score. The results depicted a favorable but insignificant connection with Taffler's score and a significant (10%) positive connection with Springate's score. This means that non-financial enterprises can reduce their going concern challenges by increasing their sales volume. The outcome of the study was similar to the work of Abor (2015) who discovered that, firms that achieve a sale growth increase experience an increase in market value that cushion them against financial failure. This implies that firms that want to sustain their operation must put in place strategies to expand their sales outlet and increase sales volume.

The study also presents the impact of firm size on going concerns of both financial and non-financial listed enterprises. Table 6 shows that firm size is favorably and significantly related to Springate's score at the 1% significant level for financial firms. Also, Table 7 shows that firm size has a positive and

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significant relationship with the measures of going concern (Taffler and Springate) at the 1% level of significance for non-financial enterprises. The results showed an insignificant positive relationship with the adjusted Altman's score. This means that big enterprises are less susceptible to going concern challenges as compared to small enterprises. The theoretical justification can be linked to the traditional concept of economies of scale. Thus, firms that operate on a large scale can achieve cost savings in transactions by buying in bulk. This cost-saving is reflected in the prices of products making the firm's products competitive in the market. The finding of the study was corroborated by the work of Muigai and Muriithi (2017).

Also, the study found that profitability was favorably and substantially connected to the going concern of both financial and non-financial firms. The finding implies that profitability helps firms to sustain their operations into the foreseeable future. The outcome of the work was corroborated by the work of Husain and Sunardi (2020), who asserted that higher profits are associated with higher firm valuation. It can be deduced that profitability boosts investors' confidence by giving them assurance over their investment in the company. Investors are not reluctant to supply extra funds for profitable firms to undertake investment opportunities that can help ensure firm sustainability.

The results as presented in Tables 6 and 7 show that board independence was positively and significantly related to the going concern of both financial and non-financial firms. Table 6 shows that board independence had a favorable and substantial connection at the 1% significant level with Springate's measure of

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going concern for financial enterprises. The results also depicted a favorable but insignificant relationship with the scores of adjusted Altman and Taffler.

The results for non-financial firms as depicted in Table 7 reveals that board independence was favorable and substantial at 1% and 10% significant levels with the scores of adjusted Altman and Springate respectively. This finding was consistent with the work of Black and Kim (2012) but contrary to the work of Hermalin and Weisbach (2003). Thus, going concern challenges are minimized when the number of independent non-executive directors on the board increases. This can be construed as independent non-executive directors being able to provide better oversight and the supervisory role that helps management to stay on course. The study, therefore, concludes that independent non-executive directors minimize going concern challenges by constraining insider self-dealing and improving investment efficiency.

Chapter Summary

This chapter provided empirical evidence for the study's research objectives and questions using the generalized method of moments (GMM) estimation technique. The study found that the three outcome variables and their one-period lags had a correlation coefficient greater than 0.8, implying that the outcome variables were persistent. Also, the pairwise correlation matrix revealed that multicollinearity was minimal. The descriptive statistics showed on average, financial and non-financial enterprises exhibited going concern challenges. However, the average distress level for financial firms was worse than for non-financial firms.

Results of the study revealed that leverage had a favorable impact on financial institutions but posed a detrimental impact on the going concern of non-financial enterprises. Also, the study revealed that capital intensity had a positive substantial relationship with the going concern status of financial firms but had a devastating influence on the going concern of non-financial enterprises. Also, the study showed that capital intensity had a positive and significant effect on the leverage and going concern nexus. Thus, firms use their investment in fixed assets as collateral security to reduce the devastating influence of debt financing on going concern. Conversely, financial institutions use their investment in fixed assets as collateral security to promote the positive impact of leverage on going concern.

The study found that sales growth was a major determinant in ensuring firm sustainability for both financial and non-financial institutions. Thus, enterprises can mitigate their going concern challenges by achieving growth in turnover. The study observed that firm size had a favorable and substantial impact on the going concern of both financial and non-financial firms. Implying that, large organizations can capitalize on economies of scale to reduce their average cost of production. A decrease in the average cost of production enables organizations to compete healthily in the market by offering commodities at a cheaper price. The study also observed that profitability had a favorable and significant connection with the going concern of both financial and non-financial enterprises.

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More so, the study observed that good corporate governance was key in influencing the going concern status of Ghanaian listed firms. The study revealed that board independence had a positive and substantial connection with the going concern of firms. Thus, independent directors play a substantial role in ensuring going concern by constraining insider-self dealing and promoting efficiency in investment among Ghanaian listed firms.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The study's broad goal was to ascertain the moderating effect of capital intensity in the leverage and going concern nexus of financial and non-financial enterprises. This section, therefore, seeks to summarize the research findings, draw conclusions, and make recommendations in light of the study's results.

Summary of the Study

The expectation that business organizations, large and small alike, will operate into the foreseeable future sufficient for them to carry out their commitments, obligations, and objectives, forms the going concern assumption. The study sought to investigate two of the major determinants of going concern, namely, leverage and capital intensity. Considering the tight financial and operational regulations in the financial sector, the study conducted a separate investigation for financial and non-financial firms. Employing the GMM estimation technique, data covering eleven years were gathered from fourteen non-financial firms. Also, data covering nine years were gathered from ten financial firms to ascertain the research objective. The data for the research was obtained from the financial statements which were downloaded from the websites of the study participants.

The study employed three multivariate discriminant scores (adjusted Altman, Taffler, and Springate) widely used in the literature to separate failing and non-failing enterprises as proxies for going concern. The explanatory

variables of the study were leverage and capital intensity. Leverage was operationalized as the ratio of debt to equity whiles capital intensity is the ratio of fixed assets to total assets. More so, the study controlled for other confounding variables namely, sales growth, firm size, profitability, and board independence.

The study sought to provide empirical evidence for three research objectives. The first and second research objectives were to examine the impact of leverage and capital intensity on an entity's going concern respectively. The last research objective sought to ascertain the moderating effect of capital intensity in the leverage and going concern nexus. The theoretical foundation that underpinned the study was the agency theory.

Summary of Findings

The summary of the research findings is presented in this section. Regarding the first objective, which was to examine the effects of leverage on an entity's going concern, the study found a different result among financial and non-financial firms. The study found that leverage had a positive and significant effect on the going concern of financial firms. Thus, financial firms can mitigate the possibility of financial distress when they employ debt financing. Conversely, the study found that leverage had a negative and significant effect on the going concern of non-financial firms. This implies that leverage poses a detrimental impact on the distress level of the non-financial firm. The second objective was to ascertain the effect of capital intensity on the going concern of listed firms in Ghana. The study revealed that capital intensity had a positive and significant relationship with the going concern of financial firms. This implies that financial

institutions can achieve business sustainability by undertaking substantial investments in fixed assets.

On the contrary, the results for non-financial firms revealed that capital intensity was negatively and significantly related to going concern. The last objective of the study was to examine the moderating role of capital intensity on the relationship between leverage and going concern. The results for financial and non-financial firms were consistent. The study found that capital intensity provides a positive and significant effect on the relationship between leverage and going concern for listed firms in Ghana.

Conclusions

The general objective of the study was to assess the moderating role of capital intensity in the capital structure and going concern nexus of listed firms in Ghana. Using a data set from 2012 to 2020 for financial firms and a data set from 2010 to 2020 for non-financial firms, the study employed the two-step GMM estimation technique. The study make these conclusions based on the research findings.

Debt financing helps financial institutions to achieve a good going concern status by reducing their level of financial distress. However, non-financial institutions may have going concern challenges by using too much debt capital. Banks as part of their fundamental activity of promoting liquidity can secure funds from outsiders (in the form of customer deposits) at a lower cost and lend these funds to borrowers (such as non-financial institutions) at a relatively higher

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cost. Thus, all risk implicit in debt financing is pioneered by financial institutions and transferred to non-financial institutions.

Financial institutions can achieve a good going concern status and reduce their distress level when they make a substantial investment in fixed assets. Financial institutions can reduce their tax obligations by receiving capital allowance on the fixed assets (depreciable assets) used in producing income for the business. Thus, banks reduce their tax burden when they invest more in fixed assets. Conversely, going concerned becomes a challenge when non-financial institutions invest substantial amounts in fixed assets. Non-financial institutions that invest a greater portion of their capital in fixed assets may lack adequate working capital to finance the activities of the business. This may pose a threat to their going concern. The conclusion drawn from the difference in results can be explained as follows. Financial institutions do not have liquidity problems since they get access to customer deposits daily. Therefore, even when they invest substantial amounts in fixed assets, they do not struggle with the availability of working capital which is a key driver of business sustainability.

Availability of fixed assets enables borrowers to reduce the risk level of lenders and consequently the cost of borrowing. Firms that present fixed assets as collateral security during debt contracts can mitigate the risk associated with borrowing. A reduction in the cost of borrowing could translate into a reduction in the prices of goods and services offered by the firm. This can help them achieve sustainable competitive advantage. Thus, capital intensity complements leverage to produce a good effect on the going concern of Ghanaian listed firms.

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Recommendations

The study makes the following recommendations based on the findings and conclusions drawn.

First, the study recommends managers of financial firms obtaining debt financing consider a concurrent strategy of increasing a portion of fixed assets compared to total assets as a strategy to manage potentially going concern challenges.

Also, financial institutions must put in place aggressive marketing measures to ensure that they have an adequate amount of debt (customer deposits) to ensure business sustainability. Considering the positive effect of leverage on a going concern, financial institutions must put measures in place to expand their customer base. This can be done by making the services of the bank readily available to customers.

Non-financial institutions are encouraged to reduce the use of debt financing. Considering the devastating effect of leverage on the going concern of non-financial institutions, they should increase the use of internally generated funds to undertake investment activities.

The study advises non-financial firms to consider the potential liquidity problems when they want to make a substantial investment in fixed assets. Since this can lock away the firms working capital.

Suggestions for Further Studies

The study suggests that future studies should explore how different measures of corporate governance including board diversity, board expertise, and

board size can influence the going concern of firms. Future studies can also investigate the relationship between investment in intangible assets and business sustainability.

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