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# Corporate Governance and Firm Characteristics on Financial Performance: Evidence from Manufacturing Firms in Ghana

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**Abstract**
This study investigates the relationship between joint corporate governance and firm characteristics mechanisms and firm performance of manufacturing companies in Ghana. The Ghanaian manufacturing industry has experienced stagnation, which the current research attributes largely to challenges in corporate governance and firm characteristics, leading to poor corporate financial performance. The study examines how Board Size (BS), Board Composition (BC), Board Independence (BI), Firm Age (FA), and Firm Liquidity (FL) effect financial performance metrics like Profit Margin (PM), Return on Equity (ROE), and Return on Assets (ROA). Data extracted from five listed manufacturing companies between 2017 and 2022 were analysed using quantile and normal regression models. The results revealed that, while corporate governance and firm characteristic variables do not significantly impact Profit Margin or Return on Equity, there are indications that a balanced board composition could heighten Profit Margin. Also, a higher firm liquidity correlates with a higher ROA, a finding that is statistically significant at the 5% level.
**Keywords:** governance, financial performance, board size, board composition, firm leverage
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## CHAPTER ONE

### 1. Introduction

Manufacturing firms in Ghana face the challenges of excessive taxes, levies, and fees, energy crisis and utility pricing, funding and interest rates, and lack of government commitment according to Nti (2015). It's obviously important to understand the sector's profitability, the importance of cost effectiveness, and comprehend firm characteristics.

Corporate governance and corporate financial performance have experienced great attention from the academic environment during the last years, being an important theme for debating. An extensive number of researchers (Chbib & Page, 2020; Coletta & Arruda de Souza Lima, 2020; Merendino & Melville, 2019; Pham & Pham, 2020; Wijethilake & Ekanayake, 2019; Liu, 2019; Song & Kang, 2019; Kuo et al., 2020; Nashier & Gupta, 2020) investigated the importance of corporate governance for the company's performance through examining the relationship using different measures. Based on these studies, the variables frequently chosen to measure the corporate governance mechanisms are board size, CEO duality, gender diversity, ownership structure, ownership concentration, and firm's revenue. Related to various governance variables, the most used performance measures are Tobin's Q, Return on Equity (ROE), Return on Asset (ROA), Return on Investment (ROI) and Economic Value Added (EVA).

The relationship between corporate governance and financial performance was grounded on various analysis' frameworks designed on particular settings and criteria. Differences are also identified in the theories the researchers used, including the agency and signal theory (Tripathi, 2019; Bansal & Thenmozhi, 2019; Sadeh & Kacker, 2020). Adding to the specific settings, different research methods were applied. Several authors have conducted statistical tests and regression analysis to describe the association between corporate governance and performance at international level. Detailing, part of them (Cincalova & Hedija, 2020; Hussain & Hadi, 2019) focused on the search for a correlation between different measures of corporate governance and performance, using Pearson's and Spearman's correlation coefficient. Other authors (Nyaruri et al., 2019; Puni & Anlesinya, 2020; Kyere & Ausloos, 2020) used descriptive statistics and regression models to discuss on the particularities of the researched databases.

According to Rasyid and Ardana (2014), corporate governance implementation can help to minimise the incidence of financial restatement. Hence, it is necessary for all companies that are publicly listed to implement the concept of corporate governance (Rasyid & Ardana, 2014). However, despite all the corporate governance mechanisms introduced by the regulators, the ability of companies to manipulate financial statements persists, and this, via the multiplier effect, affects financial performance of companies. Ultimately, such manipulations lead to the occurrence of financial restatement.

Apart from corporate governance practices, companies vary in many ways. As such, it is worth considering how such differences among companies may influence the financial performance. The study by Rezaei and Mahmoudi (2013) argued that firm size and firm losses have effects on financial performance, while other scholars

 

suggested that there are associations between company characteristics and earnings management (Swai, 2016; Alareeni, 2018). Thus, it is believed that firm-specific characteristics could also have effects on financial performance of manufacturing companies.

Most prior research analyses limited subsets of corporate governance characteristics in relation with various performance indicators. Accordingly, Chbib and Page (2020), Coletta and Arruda de Souza Lima (2020), Merendino, and Melville (2019), and Kalsie and Shrivastav (2016) examined the impact of the board of directors on the firm performance. The authors used Tobin's Q (TQ), Return on Assets (ROA), Return of Equity (ROE) as measurement of firm performance and the board size, and the board structure as measurement of corporate governance. By using a quantitative method (descriptive statistics and regression models), Chbib and Page (2020) and Merendino, and Melville (2019) found out that there exist a high positive association between board size and TQ and an insignificant association between board size and ROA. The results of Coletta and Arruda de Souza Lima (2020) and Kalsie and Shrivastav (2016) indicate a significant positive relation between the board's structures and firm performance measured by using Tobin's Q and the market-to-book value ratio (MBVR).

This study aims to examine the effects of corporate governance and firm-specific characteristics on the financial performance of manufacturing companies in Ghana. Strategic management uses the word "corporate governance" to describe the set of internal rules and policies that determine how a firm is run. For instance, corporate governance establishes which strategic decisions can be made by management and which must be made by the board of directors or shareholders. According to Nti (2015), light manufacturing has the potential to transform Ghana's economy, diversifying the production and export base while increasing employment, incomes, and export earnings.

### 1.1. Problem Statement

The Ghanaian government's One District One Factory (1D1F) plan offers promising opportunities for the industrialisation of the country. Nti (2015) noted, however, that significant problems and difficulties for Ghana's manufacturing sector include, among others: (1) competition from imported goods; (2) excessive taxes, levies, and fees; (3) the energy crisis and utility pricing; (4) funding and interest rates; and (5) a lack of government commitment. So, it is thought that if effective corporate governance that translates into effective strategy formulation and implementation is employed, manufacturing companies in Ghana could operate better without depending so much on the government.

According to a survey of the existing literature, corporate governance has received much more attention in the economies of the west than in the Sub-Saharan area, especially Ghana. According to Agyemang, Aboagye, and Ofoe-Ahal (2013), the study of corporate governance in transition economies is less extensive than it is in Western economies because the field is still developing and is more recent in these countries. Empirical evaluations present contradictory results, indicating that corporate governance is still a topic that needs further study, particularly on the continent of Africa given its culture and leadership style. Although prior studies (Drobetz, 2015; Jantadej & Wattanatorn, 2020; Tsai & Tung, 2014; Reddy et al., 2017) have looked at the connection between corporate governance and company success, the findings of such studies have been conflicting. Is there truly a direct correlation between corporate governance and organizational effectiveness at this point? The board of directors has an impact on a company's financial success, according to Mishra and Mohanty (2014), whereas Melawati et al. (2016) find the contrary. In contrast to Melawati et al. (2016), Drobetz (2015) concluded that the board of commissioners has a beneficial impact on a company's financial performance. Tertius and Christiawan (2015) disagreed with Melawati et al. (2016), who found that firm size has a favorable impact on a company's financial performance.

Research on the relationship between corporate governance and firm performance has primarily focused on corporate governance's impact on firm performance. This research is premised to add to knowledge the impact of the combined corporate governance and firm specific characteristics on firm financial performance. The empirical assessment shows a gap. The lack of conclusive study results on corporate governance and firm performance indicates a knowledge gap. Additionally, it demonstrates that corporate governance cannot predict how well a corporation would function on its own.

The impact of combined firm specific-characteristics and corporate governance on the financial performance of manufacturing companies, particularly in Sub-Saharan Africa—Ghana—remains an open question given the inconsistent findings on corporate governance and firm performance in the literature as well as the paucity of research on firm characteristics plus corporate governance on performance. Few studies, if any, have found a connection between corporate governance and firm characteristics and the financial success of manufacturing enterprises in a particular region of Sub-Saharan Africa. As a result, there are currently no studies regarding the combined impact of firm-specific traits and corporate governance on the financial performance of manufacturing enterprises in developing nations like Ghana. Studies on the impact of corporate governance alone on financial success have produced conflicting results. The Board of Directors would pay closer attention to firm characteristics of manufacturing enterprises whilst making strategic financial decisions. Also, by utilizing best practices in

 

corporate governance and firm characteristics, manufacturing companies can maximize their financial performance by virtue of effective strategic formulation and implementation.
Government and business entities are both concerned about the growing need to implement good governance in institutions found in developing nations. So, the study's motivation is to investigate how corporate governance and firm-specific traits interact to affect the financial performance of Ghanaian manufacturing enterprises.

### 1.2. Research Objectives

#### *1.2.1. General Objectives*

The general objective of the study is to provide an empirical assessment of the effect of corporate governance on financial performance, and particularly linking corporate governance to firm characteristics.

#### *1.2.2. Specific objectives*

The study aims at addressing the following specific objectives:

- To explore the influence of Board size on financial performance
- To determine the nature of the influence of corporate governance on financial performance
- To examine the nature of the influence of Board composition on financial performance.
- To determine the extent to which firm age as well as firm liquidity independently affect financial performance.

### 1.3. Research Questions

The following questions have been created from the research objectives to assist in the investigation:

- To what extent is the relationship between Board size and ROA?
- To what extent does specific corporate governance variables affect financial performance
- To what extent is the relationship between Board composition on financial performance?
- What is the relationship between firm age and firm liquidity on financial performance?

### 1.4. Significance of the Study

As already mentioned, none of the studies in literature linked corporate governance to firm characteristics on financial performance of manufacturing firms on the set variables, and in the Sub-Saharan Africa. Currently, considering the set variables for the joint corporate governance and firm specific characteristic on financial performance, there is no findings as such in developing countries like Ghana. Corporate governance alone on financial performance has resulted in mixed findings in literature. Board of directors would be more attentive in financial decisions regarding specific firm characteristics of manufacturing companies. Besides, manufacturing firms can achieve maximizing financial performance via best corporate governance practice and the set firm characteristics variables.

The growing need of the application of good governance in institutions found in developing countries have become the concerns of both government and industry players since via the multiplier effect it enhances the deployment of good strategic management practices. The study would have both theoretical and policy significance.

The study will add to the body of knowledge on theories advanced to help explain the impact of corporate governance on firms' performance with the inclusion of joint corporate governance and firms' characteristics.

It is hoped that the outcomes of the study will be very expedient to shareholders, board of directors, strategists, other stakeholders such as policy makers, investors, researchers, and corporate managers involved in determination to restructure corporate Ghana.

### 1.5. Limitations of the Study

The Ghana Stock Exchange-quoted companies were the subject of the investigation. This stock exchange was selected with consideration for data availability and accessibility as well as convenience. The study is also aware that the performance factors may be impacted by the underlying behavior of these stock markets, which could bias the results of the regression. It is hoped, therefore, that many of these impacts were considered by the analysis of the control variables. Since listed firms are obligated by law to publish yearly reports and accounts, data dependability was a major factor in their selection. It makes sense that sample size would be a concern in a study of this kind on a newly popular topic like corporate governance. Although a bigger sample would have been ideal, most Ghanaian manufacturing companies are not listed on stock exchanges. This is a subliminal acknowledgement that corporate governance encompasses a wider range of factors.

 

## CHAPTER TWO
## REVIEW OF LITERATURE

### 2.1. Introduction

This chapter reviews the theoretical perspective/background of governance-performance relationship that has attracted empirical attention following the progressive worldwide corporate governance reforms. The chapter looks at corporate governance theories—stakeholder's theory, agency theory, and resource dependency theory, amid the fact that this study is based in agency theory. Both dependent and independent variables with test of hypothesis are seen in this chapter.

### 2.2. Theoretical Framework

#### *2.2.1. Agency Theory*

Agency theory pays close attention to the agency issue raised by the dispute between corporate management and shareholders, as noted by Jensen and Meckling (1976). Kwakye et al. (2018) claim that the separation of ownership and management is what causes the agency issue. The managers are appointed by the owners, who also grant them the power to operate the company in their best interests. The maximum business value, or the owners' profit, may not coincide with the managers' primary objective, which is to accomplish their own aspirations. They will thus operate in their own best interests to obtain higher pay, benefits, employment stability, and in certain situations, direct access to the company's cash flow. There is always a conflict of interest between the shareholders and the management since the manager's goals usually conflict with the owners. Platt (2012); Abousamak and Shahwan (2018). Saeed et al. (2015) also emphasizes the proactive impact that good corporate governance practices have in lessening the agency problem and enhancing the firm's value protection on the basis of agency theory. Nonetheless, value creation is given more weight in this study's conceptual framework than value protection.

#### *2.2.2. Stakeholders' theory*

Milton Friedman expanded on the stakeholder idea (Friedman, 1962). According to Freeman et al. (2018), management guided by stakeholder theory will provide value and profit for all stakeholders. Shareholder-oriented management could lead to ethical issues if it puts short-term financial rewards ahead of stakeholder concerns. By adopting a broader perspective, a company can create better value and see that the problems that affect all stakeholders are interconnected. This is made possible by stakeholder orientation. According to Buchanan et al. (2018), institutional investors can use effective monitoring to lessen the issue of overinvestment, including the stakeholder theory-related one.

#### *2.2.3. Resource dependency theory*

Resource dependence theory focuses on the important strategic decisions that businesses make to influence and manage their interdependencies with other organizations in their surroundings. The main reason why organizations need interdependencies is that they can't produce all the resources they need, thus they have to rely on other resources. Resource Dependency Theory (RDT) is primarily concerned with the ease with which businesses can obtain resources such as capital and expertise. A well-resourced board of directors can have a good effect on a company's performance, according to Pfeffer (1973). Theories of agency and resource dependence highlight the importance of robust governance frameworks in improving the environmental responsibilities and performance of companies. However, these theories are flawed because they mainly focus on the financial gains and competitive advantages of environmental performance (Haque, 2017). Using RDT, Pfeffer (1972) assessed boards, concentrating on the size and makeup of the board (ownership structure) as a measure of the board's capacity to supply vital resources to the company. A company's ownership structure affects its environmental obligations; Pfeffer (1972) states that more interdependent ownership arrangements necessitate a larger proportion of outside directors. He comes to the conclusion that ownership structure and board size are acceptable organizational responses to the limitations of the external environment, not random or independent variables.

#### *2.2.4. Firm Financial Performance*

Firm performance is the dependent variable of this study. Financial performance broadly reflects the ability of the corporation to increase company value. Success for a business depends on its capacity to generate profits, which demonstrates great performance (Puni & Anlesinya, 2020). The informational source that may be utilized to assess the financial performance of the organization is often the annual report of the corporation. The valuation of financial statements is meant to acquire data regarding a company's balance sheet and changes in its financial situation for individuals who use financial statements as a major deciding element (Sofia & Januarti, 2022). There are different measures of performance used in the literature (for example, see Ahmed & Muhammed, 2018; Budur & Poturak, 2021; Zaim et al., 2021). Scholars generally use accounting measures such as profitability indicators to measure firm performance (Abdullah et al., 2021; Ibhagui & Olokoyo, 2018; Jouida, 2018; Lins et al., 2017). In this study, the three measures of return on assets, return on equity, and profit margin are used. The return on assets is ratio of earnings before interest and tax and total assets, the return on equity is earnings before interest and tax to total equity of shareholders, whereas profit margin is the ratio of revenue less cost and revenue.

 

***2.2.5. Corporate Governance***

According to (Tricker 2015), corporate governance is a collection of procedures, rules, and laws that influence how a company is run. Corporate governance was also described by Kraft and Tirtiroglu (1998) as a set of established principles and practices that are applied by firms' management, directors, and shareholders in all areas of operation and in their dealings with stakeholders. It stands to reason that firms would develop their governing structures. Suhaily et al. (2021) claim that different people view corporate governance differently. According to some authors, the phrase refers to both private and governmental organizations, as well as the laws, rules, and commercial practices that control how corporate management interacts with stakeholders. Overall, corporate governance can be thought of as a collection of tools that might help stakeholders defend themselves against the opportunistic actions of corporate managers. A company should balance the interests of the owners with those of other stakeholders at all organizational levels through corporate governance. Financial statement issues like earnings management, false financial reporting, and financial restatement have been researched in relation to various corporate governance processes over time (Rasyid & Ardana, 2014; Hasnan & Marzuki, 2017; Shi et al., 2017). The effectiveness of corporate governance in preventing such problems has been examined using a variety of approaches, including board size, board independence, CEO duality, audit committee expertise, and others. One of the prevalent notions about corporate governance is that excellent corporate governance results in financial statements of the highest caliber. There is research that claims that there is no association between these correlations, though. For instance, Iqbal et al. (2015) discovered that there is no correlation between managerial ownership and earnings management and board size. Aziz et al. (2017) also found that there are no associations between financial restatement and government ownership, institutional ownership, or family ownership in Malaysia. Nevertheless, Abbadi et al. (2016) found that most governance indexes, including the board of directors, board meetings, audit committees, nominating committees, and pay committees, had a negative impact on earnings management. Moreover, Wan Mohammad et al. (2018) noted the significance of audit committee features in corporate governance frameworks. Their research showed a strong correlation between the incidence of financial performance and the independence, size, expertise, and activities of the audit committee. The current study's motivation to investigate the connection between corporate governance and financial performance in Ghanaian manufacturing enterprises stems from the inconclusive findings.

***2.2.6. Firm-specific characteristics***

Suhaily et al. (2021) claim that the firm-specific features are the main factors for the occurrence of financial restatement that are worth looking into in addition to the firm's corporate governance. There are many components of company features, including structural characteristics, monitoring characteristics, performance characteristics, and demographic variables (Al-Dmour et al., 2018). (Olowokure et al., 2016). Olowokure et al. (2016) define structural characteristics as the distinctive elements of a firm, such as the capital structure, also known as firm size and firm leverage. According to Al-Dmour et al. (2018), firm age is another factor that might affect the quality of financial reporting in addition to business size. This is due to the fact that the size of the company will affect a number of factors, including the internal control system's structure, the type of audit service engagement, and the managers' incentives to manage earnings. These factors are anticipated to have an impact on the financial reports' caliber. Firms are more likely to have a better system that can enhance their internal control and reporting quality as they gain experience (firm age), which in turn improves financial performance. The amount of debt the company has, according to Fountaine and Phillips (2016), may increase the temptation for managers to manipulate profits. In conclusion, it can be concluded from this study that firm-specific traits are linked to financial performance. As such, this study is driven to evaluate the influence of firm-specific characteristics on financial performance in the context of Ghanaian manufacturing firms.

**2.3. Conceptual Framework**

***2.3.1. Corporate Governance Factors that influence financial performance***

***2.3.1.1. Board size.*** The total number of directors on the board is referred to as the board size (Jamaludin et al., 2015). Board size refers to the total number of members that make up the board. Because the board performs a greater degree of inspection and supervision, it is generally anticipated that companies with a larger board size have lower earnings management practices and better financial reporting quality. Larger boards may be able to support an efficient monitoring function from the agency's point of view by appointing a significant number of experienced directors (Al Azeez et al., 2019). Yet, earlier research has produced conflicting results about the relationship between board size and financial performance.

In recent years, academics, regulators, and market participants have paid a lot of attention to the topic of board size as a corporate governance measure. Empirically, the existing literature on the relationship between board size and firm performance is not conclusive. There are three types of research findings: those that record a favorable influence (Arora & Sharma, 2016; Zakaria et al., 2014); those that record a negative relationship (Garanina & Kaikova, 2016; Samuel, 2013); and those that record no association (Arora & Sharma, 2016; Zakaria et al., 2014). Given that the existing literature has contradictory results, it appears that there is no reliable evidence

 

to support the direction of the relationship between board size and business success.

According to Al Azeez et al. (2019), the size of the board has no bearing on how much earnings management is reduced. According to the study, a larger board is less effective at performing its oversight role since it will be more difficult for them to observe the management if there are too many directors on the board. Similar findings were made by Uwuigbe et al. (2018), who found a negligible correlation between the timelyness of financial reporting and the number of directors who sit on the board. The findings of Fadzilah (2017) disproved the theory that board size has a detrimental and substantial relationship with the activity of profits management among Malaysian family-owned businesses.

An empirical analysis reveals a conflict between Tobin's Q and ROA and the size of the Board. Along with emerging economies in Asia, such as Pakistan (Yasser et al., 2017), China (Liang et al., 2013), India (Palaniappan, 2017), Thailand (Glaewketgarn, 2013), Kenya (Chepkosgei, 2013), and Malaysia (Ugwoke et al., 2013), this relationship was also observed in African economies.

On the other hand, Aygun et al. (2014) showed that board size had a considerable detrimental impact on earnings management after researching the relationship between corporate ownership structure and board size. In a similar line, Bala and Kumai (2015) and Obigbemi et al. (2016) provided evidence of an antagonistic link between board size and earnings management in Nigerian businesses. Moreover, Hasnan and Marzuki's (2017) investigation into the relationship between the board of directors' features and financial restatement discovered a strong correlation between the size of the board and the frequency of financial restatement.

***2.3.1.2. Board independence***. The proportion of independent non-executive directors to the total number of board members is known as board independence (Al Azeez et al., 2019). According to Al Azeez et al. (2019), board independence is primarily correlated with the number of independent directors, as outlined in the agency theory. This is because the presence of independent directors can reduce conflicts of interest between the principal and the agent and maintain the board's autonomy, allowing management to make decisions in a fair and impartial manner (Al Azeez et al., 2019). It follows that boards with more independent directors should be able to provide better financial reports and reduce the chance of financial restatement.

Moreover, Uwuigbe et al. (2018) confirmed that the timeliness of financial disclosures in the listed Nigerian banks was unaffected by board independence. In contrast to the agency theory, Mohd Fadzilah's (2017) research found that the activities of earnings management are significantly and favorably associated with board independence among Malaysian family-owned businesses, suggesting that board independence may not be effective in regulating earnings management for these kinds of businesses.

Nonetheless, Holtz & Neto (2014) asserted that board independence has a favorable impact on profitability in informativeness. They proposed that organizations with more independent directors have a more effective monitoring function, increasing the relevance of accounting data. In addition, Talbi et al. (2015) discovered that board independence significantly affects the activities that regulate profits management. Similar to how Iraya et al. (2015) confirmed that ownership concentration, board size, and board independence had a negative association with earnings management.

***2.3.1.3. Board composition***. As a corporate governance component, the makeup of the board of directors had come under increasing scrutiny for its impact on a company's success. As a result, practitioners and academics sought to establish a proper board structure by connecting it to performance. Even though there have been several empirical studies conducted in the setting of industrialized nations, these are insufficient for developing nations. In order to ascertain if variations in business performance are related to board composition, specifically the ratio of independent non-executive directors to executive directors and board size, in the context of South Africa, Muchemwa et al. (2016) conducted a study to test the idea of a link between these characteristics and business performance using data from 2006 to 2012. Overall, these results contradict the assertion that the share of firm performance and the presence of non-executive directors are considerably and favorably connected, according to earlier empirical research. The financial performance of a firm and its composition, however, were not found to be statistically related by Latif et al. (2013)

***2.3.2. Firm Characteristics Factors that influence financial performance***

***2.3.2.1. Firm age.*** The natural logarithm of a firm's years is the firm's age (Kibiya et al., 2016). Prior research has identified firm age as a characteristic that influences the reliability of financial statements. Suhaily et al., (2020) claim that, according to past researchers, as time passes, firms gain more experience and are more likely to improve their internal control procedure and governance systems. These advantages are thought to automatically ensure the quality and integrity of the financial reports, including reducing the likelihood of financial restatement.

According to Kibiya et al. (2016), the firm age and size of the control variables in their study had a substantial impact on the non-financial companies listed on the Nigerian Stock Exchange's financial reporting quality. Waluyo (2017) discovered that corporate social responsibility (CSR) disclosure was significantly impacted simultaneously by business size, firm age, and firm development. It is inferred that the business age is highly correlated with the quality of the financial statements because CSR disclosure also affected the caliber of the financial reports. The same conclusion, that company age is significantly and favorably associated to discretionary accruals, was made

 

by Debnath (2017) as well. This suggests that, in comparison to newer enterprises, older firms are more engaged in earnings management.

Nonetheless, other research contends that older businesses produce better financial statements. The association between business age and improved control and financial reporting quality has been demonstrated in numerous studies. For instance, Echobu et al. (2017) discovered a favorable correlation between firm age and the caliber of financial reporting.

***2.3.2.2. Firm leverage***. Leverage is the ratio of a company's debt to its assets (Shirzad & Haghighi, 2015; Abbadi et al., 2016; Wakaisuka-Isingoma et al., 2016). According to the agency theory, companies with significant levels of leverage are encouraged to proactively increase the quality of their corporate reporting to their stakeholders through traditional financial statements (Jensen & Meckling, 1976). According to Shirzad and Haghighi (2015), businesses that employ financial leverage rarely manage their profits since their creditors keep a tight eye on them. Companies with higher levels of leverage are thus anticipated to have a lesser tendency to issue financial restatements since there is a reduced likelihood of earnings management methods. In addition, Alzoubi (2017) discovered that 72 industrial enterprises in Jordan had less capacity to manage earnings due to insufficient debt financing. The agency theory, which contends that increased voluntary disclosure of corporate reporting occurs when firm leverage is substantial, supports such an association (Jensen & Meckling, 1976).

Nonetheless, Echobu et al. (2017) asserted that there is a notable and advantageous relationship between leverage and the caliber of financial reporting. Moreover, research from East Africa indicates a significant positive association between a business's leverage ratio and accrual-based earnings management, indicating that a rise in firm leverage encourages managers to manipulate earnings (Swai, 2016). According to Nalarreason et al. (2019), company leverage has a favorable and significant impact on the management of earnings. The empirical conclusion, according to Suhaily et al. (2021), implies that business leverage gives managers incentives to manipulate earnings.

***2.3.2.3 Firm liquidity*.** According to Suhaily H. et al. (2021), firm liquidity is an indicator of a company's strong financial performance and assures creditors and investors of its future viability, (Echobu et al., 2017). The agency theory predicts that less liquid enterprises will provide more information to their investors, particularly debtors, in order to defend their liquidity status (Birjandi et al., 2015). Due to the ability of disclosure level to function as a control mechanism to lessen the inclination of earnings manipulation and conflict of interest, firms with limited liquidity are thought to have a lower incidence of financial restatement (Lakhal, 2015). Yet, the literature that is now available indicates a variety of links between company liquidity and financial reporting. There is no statistical correlation between business liquidity and fraud firms, according to Somayyeh (2015). Somayyeh (2015) again claimed that there is no discernible difference between fraudulent and non-fraudulent organizations in terms of the mean value of the firm liquidity ratio. The fake financial statement report of retail companies listed on the Indonesian Stock Exchange, in contrast, is highly impacted by company liquidity, according to Ferdinand and Santosa's (2018) research.

### 2.4. Empirical Framework/Review

This section covers a summary of related work done by other researchers**.**

Iqbal (2019) studied the impact of corporate governance on financial performance of pharmaceutical industry in Pakistan. The purpose of the study was to investigate whether there exists a positive, negative or no relationship between corporate governance and financial performance of pharmaceutical companies in Pakistan. The study identified variables such as CEO duality, board education, board composition, board size and board experience as corporate governance dimensions and used ROE and ROA as the variable for firm performance. The research adopted the quantitative approach and analysed data from secondary sources collected from annual reports and reports from commercial rating agencies as well as investment firm. Data from twenty-nine (29) pharmaceutical firms were analysed and the findings showed that board composition, board size, board experience and board education were strongly associated with financial performance. Duality of CEO was negatively associated with financial performance of pharmaceutical firms in Pakistan.

Suhaily et al., (2021) examined the effects of corporate governance and firm-specific characteristics on the incidence of financial restatement among Malaysian public listed firms. The element of corporate governance consists of board size, board independence, multiple directorships, audit committee expertise, external audit quality and executive compensation. Meanwhile, the firm-specific characteristics consist of firm age, firm performance, firm leverage, and firm liquidity. The agency theory has been used to guide the study. Univariate (t-test and Pearson correlation) and multivariate (logistic regression) statistical techniques were used to test the hypotheses. The study examined 147 Malaysian PLCs over the period 2011– 2016 using a matched-pair sample of 49 restatement firms and 98 non-restatement firms. In summary, the findings from this study reveal that executive compensation, firm performance and firm leverage are significant predictors for the incidence of financial restatement among Malaysian PLCs. The significant negative relationship between executive compensation and the incidence of financial restatement indicates that lower executive compensation increases the

 

likelihood of financial restatement. In other words, a higher amount of compensation among executive directors may reduce the chance of financial restatement. Finally, the findings in this study also reveal that there is a significant positive relationship between firm leverage and the incidence of financial restatement. With regards to other independent variables (i.e. board size, board independence, multiple directorships, audit committee financial expertise, audit quality, firm age and firm liquidity), there is no evidence that these variables significantly influenced the incidence of financial restatement among Malaysian PLCs. As a result, this study concludes that only executive compensation, firm performance, and firm leverage influence the incidence of financial restatement in Malaysia, particularly the sampled firms.

Sarpong-Danquah, Gyimah, Owusu Afriyie & Asiamah (2018) assessed the effect of corporate governance on the financial performance of manufacturing firms in a developing country. Specifically, the paper investigated whether gender diversity, board independence, and board size affect Return on Asset (ROA) and Return on Equity (ROE) of manufacturing listed firms in Ghana. The Generalized Least Squares (GLS) panel regression model was used to analyze the dataset of 11 listed manufacturing firms from 2009-2013. Their result reveals an insignificant representation of women on boards. Also, the empirical result shows that board independence and board gender diversity have significant positive effects on ROE and ROA. However, there is no statistically significant relationship between board size and firm performance (ROE and ROA). They suggested that manufacturing firms should appoint female board members as well as outside directors on their boards as this can make significant contribution to firm's performance. Their research used ROA (return on assets) and ROE (return on equity) as variables for financial performance. Corporate governance variables are Board size, Board independence, Firm size, and firm age. The study found a positive relationship between corporate governance and firm performance.

Modest et al., (2018), researched into the impact of board characteristics on the financial performance of Tanzanian firms. The paper aims to investigate the impact of board characteristics on the financial performance of listed firms in Tanzania. Board characteristics, including outside directors, Board Size, CEO/Chair Duality, gender diversity, board skill and foreign directors are addressed in the Tanzanian context by applying two corporate governance theories, namely, agency theory and resource dependence theory. The paper uses balanced panel data regression analysis on 80 firm-years observations (2006-2013) from annual reports, and semi-structured interviews were conducted with 12 key stakeholders. The study uses also a mixed methods approach and applies a convergent parallel design (Creswell & Clark, 2011) to integrate quantitative and qualitative data. It was found that in terms of agency theory, while the findings support the separation of CEO/ Chairperson roles, they do not support outside directors-financial performance linkage. Regarding resource dependence theory, the findings suggest that gender diversity has a positive impact on financial performance. Furthermore, the findings do not support an association between financial performance and board size, PhD qualification and foreign directors.

Adekunle (2014) examined the relationship between corporate governance and financial performance of randomly selected quoted firms in Nigeria. The paper investigates corporate governance variables and analyses whether they impact firm performance as measured by Return on Asset (ROA) and Profit Margin (PM). Based on the review of existing literature, four corporate governance variables were selected namely: Composition of Board Member, Board Size, CEO status, and Ownership Concentration which served as the independent variables. The ordinary least square regression was used to estimate the relationship between corporate governance and firm performance. Findings from the study show that there is a positive and significant relationship between composition of board member and board size as independent variables and firm performance. CEO status also has a positive relationship with firm performance. However, ownership concentration has negative relationships with return on asset (ROA) but positive relationship with profit margin (PM).

Arora & Sharma (2016) conducted a study to examine corporate governance and firm performance in the Indian Pharmaceutical Sector. The purpose of the study is to study how the financial performance of the pharmaceutical sector of India is impacted by corporate governance. The study was quantitative and also used the descriptive research design to examine the factors of corporate governance (Board Size, Proportion of Outside Directors, Board Activity Intensity, Institutional Ownership, Duality of CEO) and ROA, Adjusted Tobin Q were also used as the financial measure. An econometric model was built from the panel data collected for the period 2001 – 2010 from 150 listed firms from the Indian pharmaceutical industry. Data was analysed using both descriptive statistics and inference statistics (OLS regression). The findings of the study indicated that board independence and board size are negatively associated with ROA. The study also observed that large board enhances firm performance measured with the Tobin Q but inversely related with ROA. The researcher further argued that board size and board composition of board plays an important role in determining firm performance. Also, the study found a negative relationship between board independence and firm's performance which is due to the fact that corporate governance is a new phenomenon for Indian firms, and it might take few more years to have a momentous impact on firm performance in terms of the board being independent. Also, the result indicated that duality of CEO has a negative impact on firm which favours splitting up the role of chairman and CEO.

Mwesigwa, Nansiima, and Suubi (2014) examined whether in Uganda corporate governance, accountability, and managerial competences are related to financial performance of commercial banks. The motivation for their

 

study was the poor performance of commercial banks in Uganda, despite the number of interventions put in place. The study adopted a cross-sectional and quantitative design basing on 25 commercial banks operating in Uganda. The study provides evidence that corporate governance, accountability, and managerial competences significantly relate to financial performance of commercial banks in Uganda. However, corporate governance was observed to be the most significant predictor of financial performance.

## CHAPTER THREE
## METHODOLOGY

### 3.1. Introduction

This chapter discusses data considerations and analysis procedures as well as research design for the study. The chapter also looks at the regression model to be used to answer the research questions. Population and sample selection, as well as data collection and procedures are seen in this chapter. The study focused on the Ghanaian listed manufacturing firms for the period 2017 to 2022. Specifically, this study adopted the regression model to test the hypothesis in examining the joint effect of corporate governance and specific-firm characteristics on financial performance for the listed companies.

### 3.2. Research Type

The form and substance of this study is empirical. Positivism is the underlying philosophy in the character and nature of this study. Positivism because it relies on empirical evidence as opposed to opinions of individuals or groups in general. The research work involved analysis of documents to understand the research problem. Therefore, mixed qualitative and quantitative research methods were employed.

### 3.3. Research Design

Polit et al (2001) defined a research design as the "researcher's overall for answering the research question or testing the research hypothesis". Explanatory research designs were employed. Explanatory research attempts to clarify why and how there is a relationship between two or more aspects of a situation or phenomenon.

### 3.4. Population and Samples

There are several manufacturing firms in Ghana but only 11 of them are listed on the Ghana Stock Exchange (GSE). A sample of five listed manufacturing firms were selected. The population was therefore five manufacturing firms listed on the Ghana Stock Exchange (GSE) over a period of six years yielding 30 firm year observations. The five manufacturing firms facilitated accessibility, availability, and reliability of their annual financial reports for the 2017-2022 period from the Ghana Stock Exchange.

### 3.5. Data Collection Procedure

Data on the corporate governance mechanisms was collected from secondary data sources. Secondary data on the corporate firm characteristics (i.e., Firm Size and Liquidity), and financial performance data (i.e., Profitability Margin, ROE, and ROA) were extracted through a content analysis of corporate annual reports. DataStream was used to collect the financial data of the sampled firm for 2017–2022 in accordance with Suhaily et al. (2019). The firm age on the other hand was extracted from the company history on the company websites.

### 3.6. Tool for Data Analysis

Data collection relating to the variables was analysed using Stata version 17. The reason is that the researcher has access to the Stata software and is familiar with it. Stata enables users to analyse data descriptive statistics, correlation analysis, and regression coefficients.

### 3.7. Model Analysis and Hypothesis Testing

The following hypotheses were tested to analyse the relationship between the independent and dependent variables.

***$H_1$***. *There is a significant negative relationship between board size and financial performance.*
***$H_2$***. *There is a significant negative relationship between board independence and financial performance.*
***$H_3$***. *There is a negative relationship between board composition and financial performance.*
***$H_4$***. *There is a significant negative relationship between firm age and performance.*
***$H_6$***. *There is a significant negative relationship between firm liquidity and financial performance.*

As the cornerstone of the analytical strategy of the current study, the ordinary least squares regression model was employed as it is instrumental in providing the most accurate linear estimates between financial performance (as dependent variable) and the multiple independent variables (board size, firm age, board independence, firm liquidity). The significance of the coefficients estimated was rigorously assessed using appropriate statistical tests to ascertain whether there were substantive relationships. Quantile regression was also used in situations where

 

the normality assumption test was not met. The model is robust against outliers and its capacity to estimate the conditional quantiles provides a nuanced interpretation that goes beyond the mean effects captured by the ordinary least squares. The Pearson correlation analysis was conducted as supplementary investigative method and its dual purpose was to (1) offer a preliminary examination of the linear association between the variables, and (2) provide an additional layer of empirical validation to substantiate the findings deduced from the regression analyses.

The use of these models is consistent with the recent studies conducted by Shafie and Zainal (2016), Hasnan & Marzuki (2017) and Mohammad et al. (2018), who examined the direct relationships between dependent and independent variables. The model used is as follows---the effects of CG and FC internal mechanisms (BDSZ, BDIND, BDCOMP, FMA, FMLQ) on Financial Performance (ROE, ROA, and PM):

$ROE_{it}=\beta0+\beta1BBDSZ_{it}+\beta2BDIND_{it}+\beta3BDCOMP_{it}+\beta5FMA_{it}+\beta6FMLQ_{it}+\varepsilon_{it}$

$ROA_{it}=\beta0+\beta1BBDSZ_{it}+\beta2BDIND_{it}+\beta3BDCOMP_{it}+\beta5FMA_{it}+\beta6FMLQ_{it}+\varepsilon_{it}$ $PM_{it}$

$= \beta0 + \beta1BBDSZ_{it} + \beta2BDIND_{it} + \beta3BDCOMP_{it} + \beta5FMA_{it} + \beta6FMLQ_{it}+\varepsilon_{it}$

where,

ROA = return on assets of firm *i* at time *t;*
ROE = return on equity of firm *i* at time *t;*
PM = profitability margin of firm *i* at time *t;*
BDSZ = board size of firm *i* at time *t;*
BDIND = board independence of firm *i* at time *t;*
FMA = age of firm *i* at time *t;*
FMLQ = liquidity of firm *i* at time *t;*
$\beta1$ *to* $\beta5$ = coefficients, slope or parameter estimates for the independent and control variables;
$\beta0$ = constant coefficient;
$\varepsilon_{it}$ = error term.

### 3.8. Variable Descriptions

**Table 3.1: Variables description**

| S/N | Variables Name | Description | Cite | Measurement | Source |
|---|---|---|---|---|---|
| Dependent variable | | | | | |
| 1 | ROA | Ratio of earnings before interest and tax and total assets | Rakesh K.M., 2017 | Ratio | Annual report |
| 2 | ROE | Ratio of earnings before interest and tax and shareholders' equity | Rakesh K.M., 2017 | Ratio | Annual report |
| 3 | PM | Ratio of profit and revenue | Rakesh K.M., 2017 | Ratio | Annual report |
| Independent variable | | | | | |
| 4 | BDSZ | Number of directors on the board | Jamaludin et al., 2015 | Number | Annual report |
| 5 | BDCOMP | Ratio of independent non-executive directors and board size | Jamaludin et al., 2015 | Ratio | Annual report |
| 6 | BDIND | % of outside directors of total number of directors | Rakesh K.M., 2017 | % | Annual report |
| 7 | FAge | Natural logarithm of the number of years since the establishment | Kibiya et al., 2016 | Number | Annual report |
| 8 | FLiq | Ratio of firm current assets to current liabilities | Somayyeh, 2015 | Ratio | Annual report |

***Source: Field data, 2023***

## CHAPTER FOUR
## EMPIRICAL RESULT AND DISCUSSION

### 4.1. Introduction

This section presents descriptive data, test of normality, regression results, and result of hypothesis testing. It is followed by the discussion and interpretation of the hypothesis test, and presentation of other results.

### 4.2. Descriptive statistics

Table 4.1 provides a comprehensive interpretation of the descriptive statistics concerning the various corporate governance and financial performance metrics for five selected companies (A_1, B_2, C_3, G_4, and U_5) over a period of six (6) years (2017-2022). The variables under scrutiny include Corporate Governance (Board Size,

 

Board Independence, and Board Composition), Firm Characteristics (Firm Liquidity and Firm Age), and Financial Performance (Profit Margin, Return on Assets, and Return on Equity). The results in Table 1 include the mean and standard deviation for Board Size and Firm Age, and the median and interquartile range for the remaining variables.

**Table 4.1: Descriptive statistics**

| Company | A_1 | B_2 | C_3 | G_4 | U_5 |
|---|---|---|---|---|---|
| **Board Size** | 7.67 (1.03) | 7.17 (0.75) | 6 (-) | 8.83 (0.75) | 11 (0) |
| **Firm Age** | 41.5 (1.87) | 43.5 (1.87) | 39.5 (1.87) | 59.5 (1.87) | 17.5 (1.87) |
| **Board Independence** | 85.71 (2.39) | 72.92 (22.61) | 66.67 (0) | 76.39 (6.53) | 54.54 (0) |
| **Board Composition** | 0.86 (0.02) | 0.73 (0.23) | 0.67 (-) | 0.76 (0.07) | 0.55 (0) |
| **Firm Liquidity** | 0.11 (0.11) | 4.06 (1.64) | 1.12 (0.32) | 1.12 (0.71) | 0.69 (0.34) |
| **Profit Margin** | -8.27 (11.03) | 42.65 (29.78) | 40.76 (5.5) | 25.5 (0.23) | 21.53 (11.79) |
| **Return on Assets** | -0.16 (0.08) | 0.21 (0.27) | 0.02 (0.01) | 0.04 (0.04) | 0.11 (0.25) |
| **Return on Equity** | -1.44 (1.45) | 0.25 (0.32) | 0.11 (0.09) | 0.09 (0.07) | 0.42 (1.4) |

***Note: For board size and firm age, the mean and standard deviations are calculated***
***Source: Field data, 2023***

#### *4.2.1. Board Size and Firm Age*

Considering Board Size, A_1 and B_2 have moderately sized boards with low variability, as evidenced by their mean board sizes of 7.67 and 7.17, respectively, and low standard deviations. In contrast, G_4 has the largest board size with a mean size of 8.83 but also exhibits low variability. U_5 stands out with a notably larger fixed board size of 11, while C_3 has a smaller fixed board size of 6. These differences in board size may reflect the contrasting governance structures and strategic needs of these companies.

In terms of Firm Age, G_4 was discovered to be the oldest company with a mean age of 59.5 years, followed closely by B_2 and A_1 with mean ages of 43.5 and 41.5 years, respectively. C_3 is slightly younger with a mean age of 39.5 years, while U_5 is notably the youngest at 17.5 years. Note that Firm Age for U_5 was selected from the time U_5 began. The low standard deviations across all companies indicate that these firms are relatively stable in terms of their age, which could be indicative of their market experience and maturity.

#### *4.2.2. Board Independence and Composition*

Board Independence varies significantly across the companies. A_1 leads with a median independence of 85.71%, suggesting a highly independent board, while U_5 lags with a median of 54.54%, indicating less independence. B_2 and G_4 fall in the middle range with medians of 72.92% and 76.39%, respectively. The high interquartile range for B_2 suggests greater variability in board independence, possibly reflecting a transitional phase in its governance structure.

Board Composition also varies, with A_1 having the most balanced board with a median of 0.86. B_2 and G_4 have moderately balanced boards, while U_5 and C_3 have less balanced boards, as indicated by their lower medians. These compositions are suggestive of the companies' strategic focus; for instance, a less balanced board might indicate a more specialised strategy.

#### *4.2.3. Dependent variables: Return on Equity, Profit Margin, and Returns on Assets*

In terms of Return on Equity (ROE), B_2 stands out with a high median of 4.06, suggesting strong equity. C_3 and G_4 also exhibit moderate equity, whereas A_1 and U_5 lag behind. The high interquartile range for B_2 suggests more variability, possibly due to fluctuating market conditions or strategic shifts.

Profit Margin (PM) shows a glaring difference between the companies. B_2 and C_3 lead with high positive medians, indicating strong profitability. G_4 and U_5 show moderate profitability, while A_1 has a negative median (losses), suggesting poor profitability. The high interquartile range for A_1 and B_2 could indicate significant fluctuations in their profit margins, warranting further investigation.

The values on Return on Assets (ROA) vary across the companies with B_2 leading with a median ROA of 0.21, indicating effective asset utilisation. G_4 and C_3 have low ROAs, suggesting less effective asset utilisation, while A_1 has a negative ROA, indicating poor asset utilisation. The variability in ROA for B_2, as indicated by its high interquartile range, could be due to diverse investment strategies or market conditions.

In conclusion, the descriptive statistics for the five companies disclose significant differences in corporate governance and financial performance metrics. These differences are not simply numerical but offer insights into the governance structures, strategic focuses, and financial health of these firms.

### 4.3. Normality Test

The assumption of normality often plays a pivotal role in statistical modeling and hypothesis testing. Violations of this assumption have the tendency of misleading or resulting in incorrect inferences. Therefore, tests of normality are conducted to ratify this assumption in relation to the three key financial performance metrics (Return on Assets, Return on Equity, and Profit Margin), which are the dependent variables in the current study. The

 

Shapiro-Wilk test statistic "W" and the corresponding p-values were reported. The p-value is crucial for determining whether the data distribution for each variable significantly departs from a normal distribution.

For independent random variables, a normal distribution is a statistical probability distribution. Since the data are symmetric around the mean, those that are closer to the mean occur more frequently than those that are farther from the mean. The probability is represented by the area under the normal distribution curve, which adds up to one. Continuous variables belong in the normal distributions.

A statistical technique called the Shapiro-Wilk test is used to ascertain if a sample of data is representative of a normal distribution. The test statistics are computed using the sample data and is represented by the letter "W". The sample's normal distribution from the population is the test's null hypothesis. The null hypothesis is not rejected when the test statistic is smaller than a crucial value, suggesting that the sample is representative of a normally distributed population. The null hypothesis is rejected if the test statistic is higher than the critical value, suggesting that the sample does not originate from a population that is normally distributed.

A statistical metric called the p-value is used to assess the validity of the null hypothesis. It is a figure that, based on a statistical test, indicates the probability that, in the event that the null hypothesis was true, you would have discovered a specific collection of observations. You are more likely to reject the null hypothesis if the p-value is less. Put differently, the p-value aids in the decision of whether to reject the null hypothesis during the hypothesis testing process. It indicates the frequency with which, under a true null hypothesis for your test, you would anticipate seeing a test statistic that is either as extreme or more extreme than the one determined by your statistical test. A p-value represents a proportion, therefore if it is 0.05,

Both the Shapiro-Wilk test “W” and the p-value are seen as well as the number “N” of observation on the normality test in Table 3.

**Table 4.2: Normality Test**

Test of normality is conducted on the dependent variable(s)

| Test of normality is conducted on the dependent variable(s) | | | |
|---|---|---|---|
| **Variable** | **N** | **W** | **p-value** |
| **Return on Assets** | 30 | 0.9389 | 0.085 |
| **Return on Equity** | 30 | 0.22667 | <0.001 |
| **Profit Margin** | | 0.7047 | <0.001 |

***Source: Field data, 2023***

***4.3.1. Return on Assets*:** For Return on Assets, the test statistic "W" of 0.9389 and its associated p-value of 0.085 upholds the conception that the distribution of Return on Assets does **not** significantly deviate from a normal distribution. This implies that statistical methods assuming normality can be reliably applied to this variable, given the sample size of 30 observations. Hence, we can perform the regression analysis using ROA as the dependent variable without fear of getting misleading results or making incorrect inferences. The variable indicates that the data is symmetrically distributed with no skew if it does not significantly vary from a normal distribution. The data has a bell-shaped distribution when shown on a graph, with the majority of values gathering about the center and falling off as they go out from it.

The mean, median, and mode of a normal distribution are all precisely the same. Half of the values fall below and half above the mean, indicating that the distribution is symmetric about the mean. The mean and the standard deviation are two numbers that can be used to characterize the distribution. The center of the curve's peak is determined by the mean. The curve shifts to the right when the mean increases and to the left when it decreases.

***4.3.2. Return on Equity:*** The test statistic "W" for Return on Equity was estimated to be 0.22667. However, the $p<0.05$ typically leads to the rejection of the null hypothesis, indicating that the data is not normally distributed. This warrants caution when applying statistical methods that assume normality and may necessitate data transformations or the use of non-parametric methods. In this case, the non-parametric regression (Quantile Regression) was adopted to replace the ordinary least squares method to avoid misleading results.

A substantial departure of a variable from a normal distribution indicates that the data is neither bell-shaped or symmetrically distributed. Put differently, the data is skewed. The distribution of the data cannot be explained by the mean and standard deviation alone since the mean, median, and mode of the data are not equal.

A measure of the data's dispersion is the standard deviation. A normal distribution has data that fits within one standard deviation of the mean in approximately 68% of cases, two standard deviations in 95% of cases, and three standard deviations in 99.7% of cases. These guidelines do not apply if the data are not regularly distributed.

***4.3.3. Profit Margin:*** For Profit Margin, the test statistic of 0.7047 corresponds to a p-value less than 0.001. As in the case of return on equity, the low p-value leads to the rejection of the null hypothesis, suggesting that the Profit Margin data is not normally distributed. Thus, the same treatment is applied to the profit margin as a dependent variable in the regression analysis.

In the same way as the Return on Equity, the Profit Margin data is neither bell-shaped nor symmetrically distributed when a variable significantly deviates from a normal distribution. Stated otherwise, the data is skewed. Since the mean, median, and mode of the data are not equal, the distribution of the data cannot be explained by

 

the mean and standard deviation alone.

The standard deviation is a measure of the dispersion of the data. About 68% of the data in a normal distribution fit within one standard deviation of the mean, 95% of the data fit within two standard deviations, and 99.7% of the data fit within three standard deviations. If the data are not disseminated on a regular basis, these criteria are not applicable.

In conclusion, the tests of normality reveal that among the three dependent variables, only Return on Assets appears to conform to a normal distribution. Both return on equity and profit margin exhibited strong evidence of deviating from normality. These results have significant implications for subsequent statistical analyses and models. Hence, the non-parametric regression method is applied to the dependent variables that violated the normality assumption since the non-parametric regression is a distribution-free statistical method.

The statistical technique known as non-parametric regression is used to estimate the relationship between a dependent variable and one or more independent variables without assuming anything about the functional form of that relationship. Non-parametric regression does not make the assumption that the error terms are normally distributed or that the relationship between the dependent and independent variables is linear, in contrast to parametric regression. Rather, it makes use of adaptable models that can capture intricate correlations between the variables. When the data do not fit the parametric regression assumptions or when the nature of the relationship between the variables is unclear, nonparametric regression might be helpful.

### 4.4. Regression Analysis

One statistical technique for estimating the connection between a dependent variable and one or more independent variables is regression analysis. It is employed to determine the degree of correlation between the variables and forecast the dependent variable's value considering the independent variables value.

#### *4.4.1. Return on Assets*

Return On Assets is a critical financial measure that reflects a firm's ability to generate profits from its assets. Because it enables analysts and investors to assess a company's profitability in relation to its total assets, return on assets (ROA) is a crucial indicator for organizations. A firm may manage its balance sheet more profitably and efficiently if it has a greater return on assets (ROA); conversely, a lower ROA suggests that there is potential for improvement.

It's crucial to remember that to obtain a full view of a company's financial health, ROA should be utilized in conjunction with other financial ratios and metrics. For instance, the cost of debt, which has a big influence on a business's profitability, is not included in ROA.

Understanding the determinants of return on assets is essential and this study aims to interpret and discuss the regression results that investigate the relationship between return on assets and several predictors, including board size, board independence, board composition, firm age, and firm liquidity.

**Table 4.3: Regression Results on Return on Assets (ROA)**

| | **Return On Assets** | |
|---|---|---|
| | **Coefficient Estimate** | **Standard Error** |
| **Board size** | 0.008 | -0.019 |
| **Board independence** | 1.066 | -1.79 |
| **Board composition** | -107.069 | -179.085 |
| **Firm age** | -0.001 | -0.003 |
| **Firm liquidity** | 0.045** | -0.012 |
| **Constant** | 0.289 | -0.32 |
| **N** | 30 | |
| **R-square** | 0.52 | |
| **F-statistic** | 5.2 | |
| **p-value** | 0.0023 | |

**** p < 0.05, ** p < 0.01, *** p < 0.001***

***Source: Field data, 2023***

#### *4.4.2 Board Size*

The coefficient for board size is 0.008, and it is not statistically significant at the 5% level. The standard error is -0.019. This suggests that board size does not have a significant impact on return on assets in this model. In terms of explanation, return on assets is increased by a magnitude of 0.008 for every one unit increase in board size, keeping all other predictor variables constant. It also means that the profitability of the company is unaffected by the size of the governing board if the board size (BS) has no discernible effect on return on assets (ROA). A financial ratio called return on assets (ROA) gauges how well a business uses its assets to produce profits. A higher return on assets (ROA) suggests that a business is making better use of its resources to turn a profit.

***4.4.3. Board Independence*:** For every one unit increase in board independence, the return on assets is increased

 

by a margin of 1.066, with a standard error of -1.79. The result is not statistically significant, indicating that board independence does not significantly influence return on assets in this analysis. The percentage of independent directors on a board of directors who are not connected to the corporation is known as board independence. It is assumed that stronger corporate governance and better financial performance are typically linked to more independent boards. The absence or presence of independent directors on the board may have little to no effect on the company's financial performance if board independence does not significantly affect return on assets. But it's crucial to remember that this is a complicated matter, and the company's financial success could be impacted by other things as well.

***4.4.4. Board Composition:*** The coefficient for board composition is -107.069, with a standard error of -179.085. The result is not statistically significant, suggesting that board composition does not have a significant impact on return on assets and results in a decrease of about 107.1 on return on assets for every one unit increase in board composition. When board composition (BC) does not have a significant impact on return on assets (ROA), it means that the composition of the board of directors does not have a significant effect on the company's profitability in relation to its total assets. In other words, the company's ROA is not influenced by the composition of its board of directors. ROA is a financial ratio that indicates how profitable a company is in relation to its total assets.

***4.4.5. Firm Age:*** Similarly, the coefficient for firm age (-0.001) with a standard error of -0.003 is not statistically significant at the 5% level. This implies that firm age does not significantly affect return on assets. To manage its financial sheet profitably, a corporation must be more productive and efficient, and a lower ROA suggests there is opportunity for progress. If firm age does not significantly affect ROA, it also has no discernible effect on the profitability of the business. Put another way, the length of the company's business history has no bearing on its profitability.

***4.4.6. Firm Liquidity:*** The coefficient for firm liquidity (0.045) was established to have a significant influence on the return on assets at the 5% level as evidenced in the table above. The positive sign suggests that higher firm liquidity is associated with higher return on assets, and the result is statistically robust.

Overall, the R-square value of 0.52 indicates that approximately 52% of the variability in return on assets is explained by the model (with all the predictor variables present in the model). The F-statistic (5.2) with its associated p-value of 0.0023 suggests that the model is statistically significant at the 5% level.

### 4.5. Quantile Regression

Given the predictor variables, quantile regression is a statistical technique used to estimate the conditional median (or other quantiles) of the response variable. When the requirements of linear regression are not satisfied, an extension of linear regression is applied. The estimates are more resilient to response measurement outliers when using quantile regression as opposed to standard least squares regression.

Table 5 presents Quantile Regression which offers a more comprehensive view of the relationships between dependent and independent variables by focusing on different quantiles of the dependent variable's distribution. In this study, the quantile regression results are presented for two key financial metrics (Profit Margin and Return on Equity) at median point (0.5).

**Table 4.4: Quantile Regression for Profit Margin and Return on Equity**

| | **Profit Margin** | | **Return on Equity** | |
|---|---|---|---|---|
| | **Coefficient** | **Standard Errors** | **Coefficient** | **Standard Errors** |
| **Board size** | -3.05 | -2.649 | 0.054 | -0.139 |
| **Board independence** | -377.042 | -252.058 | -8.06 | -13.192 |
| **Board composition** | 37630.258 | -25223.032 | 804.165 | -1320.131 |
| **Firm age** | 0.258 | -0.37 | 0.003 | -0.019 |
| **Firm liquidity** | 2.143 | -1.745 | 0.058 | -0.091 |
| **Constant** | 84.165 | -45.086 | 0.554 | -2.36 |
| **N** | 30 | | 30 | |
| **Pseudo R-square** | 0.3013 | | 0.0449 | |

*$* p < 0.05$, $** p < 0.01$, $*** p < 0.001$*

***Source: Field data, 2023***

***4.5.1. Profit Margin***

In terms of the overall model fit, the Pseudo R-square value (0.3013) suggests that approximately 30.13% of the variability in Profit Margin is explained by the model. The Pseudo R-squared value is 0.3013, which suggests that approximately 30.13% of the variability in Profit Margin is explained by the model means that the model accounts for about 30.13% of the variation in Profit Margin, while the remaining 69.87% of the variation is not accounted for by the model.

***4.5.2. Board Size:*** The coefficient for board size (-3.05) suggests that profit margin will be reduced by a margin of 3.05 for every one unit increase in board size. However, the result is not statistically significant at the 5% level.

 

There is therefore no need to increase the board size since it has no significance for firm performance in profit margin according to this result. Reasons why board size has no impact on profit margin may be as a result of poor communication and the inability to make viable decisions due to the large size of the board. This contradicts large extant literature that found either a positive relationship (Goodstein et al., 1998; Makailu & Garba, 2005, Saravanan, 2012) or a negative relationship (Yermack, 1996 and Eisenberg et al., 1998) between board size and firm performance.

***4.5.3. Board Independence:*** The coefficient for board independence is -377.042, with a standard error of -252.058. The negative sign indicates that greater board independence is associated with a decline in Profit Margin. The result is not statistically significant. This means that the percentage of outside directors of total number of directors would need to be controlled as it has a negative effect on firm performance. Therefore, the financial performance of manufacturing listed firms in Ghana in profit margin is not positively impacted by the presence of outside directors irrespective of their stringent oversight, counsel, experience in financial, legal, and other areas, as well as their external influences. This indicates that manufacturing companies typically perform worse when the number of non-executive directors increases. The outcome contradicts the views of proponents of the resource reliance and agency theories, which assert a positive causal association between board independence and company performance. Specifically, Jensen and Meckling (1976) claim that executive directors, simply by virtue of their position, have access to a wealth of information that may lead them to conspire with management and make decisions that are detrimental to the value or interest of shareholders. The result disagrees with research by Khan and Awan (2012) and Gordini (2012), who claim that board independence significantly improves firm performance.

***4.5.4. Board Composition:*** The coefficient for board composition is 37630.258, with a standard error of -25223.032. There is a positive sign relationship between board composition and profit margin as indicated by the coefficient of 37630.258. Though not statistically significant at the 5% level, the results suggest that a more balanced board composition is associated with an increase in profit margin. This means that a more balanced ratio of independent non-executive directors and board size increases, in other words the directors on the board of manufacturing companies in Ghana and what they bring to the board table, such as their management expertise, skills, learning curves, and vast experiences could positively affect firm performance in the area of profit margin.

***4.5.5. Firm Age and Liquidity:*** The coefficients for firm age (0.258) and firm liquidity (2.143) are not statistically significant, as indicated by their standard errors of -0.37 and -1.745, respectively and at the 5% level of significance. Thus, the result shows that irrespective of the natural logarithm of the number of years since the establishment of the manufacturing company, liquidity is unchanged. This means that both the board members as well as the managers must work hard with good policies and effective operations with cost effectiveness to enhance liquidity rather than thinking that liquidity will be enhanced because the company is aging or has been in existence for long.

***4.5.6. Return on Equity:*** In these results from Table 4, it was interestingly discovered that none of the predictor variables, that is board size, board independence, board composition, firm age, and firm liquidity were statistically significant at predicting return on equity at the 5% level. This is reflected in the Pseudo R-square value of 0.0449 which indicates that approximately 4.49% of the variability in Return on Equity was explained by all the predictor variables. There may be a complicated relationship between firm age and ROE. There is conflicting evidence about the impact of the firm age on return on equity (ROE). Some research contends that younger firms are more likely to emphasize short-termism and value preservation over long-term, risky innovation methods. There are varying opinions on the relationship between firm age and ROE, it is clear that there are many factors that can affect ROE beyond just firm age.

The degree to which management creates income, stock buybacks, increasing debt use, and asset devaluation are some of the factors that might affect ROE.

According to this result, the presence of outside directors and the makeup of the board, regarding their stringent oversight, counsel, and knowledge in legal, financial, and other domains, as well as their external influences, do not favorably impact the return on equity of Ghanaian manufacturing listed companies. The outcome indicates that manufacturing firms often perform worse in terms of return on equity as the number of predictor variables increases. It is crucial to remember that the study is exclusive to the manufacturing sector and might not apply to other sectors. On the other hand, it's possible that board size has no direct bearing on return on equity. The return on equity may be more significantly impacted by other elements like the market environment, managerial style, and financial structure of the organization. Nonetheless, it is widely accepted that a company's success is greatly influenced by the makeup of its board. By bringing fresh viewpoints and ideas to the table, a diverse board of directors with members from various experiences and backgrounds can help the business make better decisions and perform better. A homogeneous board, on the other hand, can experience groupthink and a lack of originality, which could result in bad decisions and less than ideal results. It is crucial for businesses to aim for diversity and inclusion in their boards even though there may not be a direct link between them and return on equity. This is because diverse and inclusive boards are better able to handle the intricate problems that face

 

businesses in the modern day.

## CHAPTER FIVE
## SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATION

### 5.1. Summary of Findings and Conclusion

This study investigated the relationship between corporate governance and firm characteristics mechanisms and financial performance of manufacturing firms in Ghana. It argues that stagnation of the manufacturing sector in Ghana has come about largely as a result of corporate governance and firm characteristics challenges in the industry which leads to poor corporate financial performance. The study examined five listed manufacturing companies in Ghana over the period 2017 – 2022. The quantile regression results revealed that none of the joint corporate governance and firm characteristic variables are statistically significant for either profit margin or return on equity, hence accepting the null hypotheses. The Pseudo R-square values indicate that the models explain 30.13% and 4.49% of the variability in profit margin and return on equity, respectively. Though not statistically significant at the 5% level, the results conclude that a more balanced board composition is associated with an increase in profit margin. Firm age and firm liquidity are not statistically significant unlike the regression model. None of the predictor variables were statistically significant at predicting return on equity. Normal regression results reveal that board size, board independence, and board composition do not have a significant impact on firm performance (ROA). Firm liquidity was however established to have a significant influence on the firm performance (ROA), rejecting the null hypothesis.

### 5.2. Policy Implications

The findings of the study call for a reevaluation of the focus on traditional corporate governance mechanisms in the context of Ghana's manufacturing sector. Policymakers and industry stakeholders should consider shifting their attention to other potential determinants of corporate success since most of the conventional governance and firm characteristics as used in the current study revealed no significant impact on financial performance.

For manufacturing businesses, liquidity management is an essential component of financial management. It is the procedure used to make sure a business has adequate cash on hand to pay its debts when they become due. Excessive or inadequate liquidity can be harmful to an organization's ability to run smoothly. Liquidity management has emerged to be a crucial area that could benefit from targeted policy interventions. As such, it could entail the development of best practices or guidelines aimed at optimizing cash flow and working capital which in turn could drive improvements in the overall financial performance of the companies. Hence, strategic efforts should be redirected towards enhancing operational efficiencies and financial management systems rather than solely concentrating on board characteristics and firm age as primary levers for improving the performance of the manufacturing sector.

### 5.3. Recommendation

To enhance financial performance, manufacturing companies in Ghana must take particular attention to their liquidity. Also, a more balanced board composition is associated with an increase in profit margin. To maintain a well-rounded board, it is crucial to take diversity in backgrounds, experiences, and skill sets into account. A diverse and well-rounded board typically has better discussions, makes wiser choices, and handles problems more comprehensively. A combination of independent non-executive directors and executive directors is the best makeup for a board. The relationships between the board and firm-specific variables and the financial metrics of interest are complex and may not be captured adequately by the quantile regression model. Further research is needed to study these relationships in greater detail, possibly employing different methodologies or focusing on different quantiles of the dependent variables' distributions.

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