Research Topic

CORPORATE GOVERNANCE AND BORROWING COST OF COMPANIES LISTED ON THE NIGERIAN EXCHANGE LIMITED

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Abstract

Corporate governance plays a pivotal role in protecting the interests of all stakeholders, most especially the investors/debtholders. Borrowing costs, on the other hand, are costs incurred and payable by a company for the use of the funds provided by the debtholders. Debtholders' assessment of corporate governance structure could impact its view of risk management and by extension, reflect in the cost of borrowing of companies. Prior literature had affirmed the position that businesses on the African continent especially Nigeria and across the globe are experiencing financial leverage and liquidity shortage challenges. This shows that companies are faced with challenges of how to meet both short- and long-term obligations. To meet these obligations, companies deploy a mix of debt and equity. The cost of assessing debt in Nigeria has been on the increase leading to financial distress in companies, hence, the need for a way out. The present study therefore examines the effect of corporate governance (board structure and audit committee structure) on borrowing cost of listed companies in Nigeria which was anchored on agency theory.

The study adopted quantitative research approach, this is because it provides a structured and systematic approach to data collection and analysis. The study relied on secondary data sourced from listed companies' annual accounts, over a period of ten (10) years. The population of this study consists of all listed companies on the NGX as at December 31st, 2023. The study employed both descriptive and inferential analytical techniques in testing the hypotheses that were formulated for this study. In testing the hypotheses, the study used multiple regression models since all the models developed were multiple linear regression equations and based on the nature of the data the Generalized Method of Moments (GMM) was considered as the estimation technique.

The study tested two hypotheses which states that board structure does not have significant effect on borrowing cost while the second is that audit committee structure do not have significant effect on borrowing cost. It was found that board structure of listed companies in Nigeria has a significant effect on their borrowing cost. However, both board size and board diversity individually had no significant effect on borrowing cost. Furthermore, hypotheses two results also show that audit committee structure has a significant effect on the borrowing cost of companies listed on the NGX. therefore the two null hypotheses stated were rejected.

The study concludes that the different measures/proxies used of corporate governance (board structure and audit committee structure) influence the cost of borrowing of listed companies differently. This means that there is a mixed relationship between the two variables. The study therefore recommended that there is need for the Securities and Exchange Commission of Nigeria to review the code of corporate governance, taking into consideration the peculiarities of our local

environment, most especially the legal framework which no longer aligns with the current socio-economic realities. Also, the board of listed companies should ensure that the audit committee meets quarterly. Finally, regarding board meetings, it was recommended that penalties should be introduced for non-genuine absences from board meetings. In line with agency theory, the study recommends that principals closely monitor the activities of the management by ensuring good audit committee structure that serves as watch dog on the operating activities of the management to ensure wealth maximization of the owners.

CHAPTER ONE

INTRODUCTION

1.1 Introduction to the Problem

Although corporate governance plays a pivotal role in protecting the interest of all it stakeholders most especially the investors and debtholders, the effect of corporate governance on borrowing cost remains unclear. Every business has two major sources of finance which include either debt or equity (capital structure), this is why benefit to shareholders might be different from that of debtholders (Jantadej & Wattanatorn, 2020). However, focus evidence from prior literature had often been on equity which is related to shareholders and their wealth maximization (Naciti, Cesaroni, & Pulejo, 2021; Khatib & Nour, 2021; Owolabi & Dada, 2011). Notwithstanding, prior evidence also exist on debt (cost of debt), these research evidence are however from European and Asian countries (Bradley & Chen, 2015; Jiraporn et al., 2013; Fields et al., 2012; Pham et al., 2012; Lorca et al., 2011; Ashbaugh-Skaife et al., 2006; Klock et al., 2005; Bhojraj & Sengupta, 2003; Han, Kang, & Shin, 2016).

The present study addresses conceptual gap with respect to borrowing cost evidence from developing economy in Africa (Nigeria). Borrowing cost in literature had mostly been defined as the proportion of interest expense in total facility (borrowings) expressed as a percentage (Jantadej & Wattanatorn, 2020; Bradley & Chen, 2011). However, based on the developing economies experience like Nigeria, the monetary policy rate plays a significant role on borrowing cost, therefore the study used the spread above risk free rate. What this implies is that when risk free rate is increasing but the spread is not increasing, it means interest rate environment is getting higher but not that the company's borrowing cost is increasing. The justification is that different debts have different behaviours (term loan or overdraft). Also, in measuring corporate governance, board structure and audit committee structure were used. The study however went further to create a corporate governance rating score (CGRS) by combining both board structure and audit committee structure (as the main measure of corporate governance structure) to determine the corporate governance compliance/standard of each company for each year which was used in estimating the main model. Hence, the justification for the current research.

Debt financing has been adjudged in literature (Vijayakumaran, & Vijayakumaran, 2019a) to be the

most preferred form of capital structure. Wattanatorn, Padungsaksawasdi, Chunhachinda, and Nathaphan (2020) opined that so many businesses in developing and developed economy most especially Thailand rely more on debt financing. No wonder businesses operating within the continent of Africa and other environment prefer debt in financing their operations not minding the costs attached to it (Zeitun, 2014). Borrowing costs are typically contractual fees and interests. Most borrowing costs are recognized as an expense deducted from the company's operating profit. Therefore, borrowing costs are costs incurred and payable by a borrower for the use of the funds provided by a lender.

The problem to be addressed in this research is the fact that businesses in the continent of Africa especially Nigeria are experiencing financial leverage and liquidity shortage challenges (Olokoyo, 2013; Kwarbai, Olayinka, Ajibade, Ogundajo & Omeka, 2016; Osundina, Olayinka, & Chukwuma, 2016). This challenge is not only domiciled within African countries alone, Vijayakumaran and Vijayakumaran, (2019b) in there study, presented liquidity shortage and leverage issues as experienced by Chinese Listed Companies. This shows that companies globally are faced with challenges of how to meet both its short and long term debt obligations to the debt/stockholders. Specifically sizeable number of multinational companies had moved from Nigeria, so many mergers in the financial sector and in fact some banks (Heritage Bank and Skye Bank to mention but few) in Nigeria are forced by regulators to be shut down because of liquidity shortage crises. Hence, the need for a way out. Therefore this study made a difference by recommending corporate governance practices that can help ensure sustainability (addressing liquidity shortage and high cost of borrowing) of listed companies in Nigeria.

Experts have argued, even in literature (Jensen, 1993) that the failure as a result of financial leverage and liquidity shortage of many big corporations is to some degree traceable to non-compliance with internal control system and corporate governance principles. Corporate governance is considered to have significant impact on the growth of any business. Strict compliance to sound corporate governance principles leads the business towards the achievement of higher financial performance which includes the business ability to meet its obligations. To this end, based on the problem identified, the present study seeks to examine what impact does corporate governance practices has on borrowing cost and to also investigate whether sound corporate governance structure will help to

reduce company's borrowing costs of the selected companies listed on the Nigerian Exchange Limited or not. Companies listed on the Nigerian Exchange (NGX) are considered because they are fundamental to the economic growth of the nation and data availability. These companies constitute the production sector of the economy and contribute to the macro economic development of the country such as employment, GDP and the living standard of the citizenry (Osundina, Olayinka & Chukwuma, 2016).

This study contributes to the existing of knowledge in twofold. First, this study expands existing literature on the domain of corporate governance in relation to borrowing cost by developing empirical evidence (based on the Nigeria environmental context) with regard to the effect of corporate governance practices on borrowing cost of all companies to be investigated. Second, this study will providesa new conceptual definition for borrowing cost. Also, regarding theory, the study emphasized that in emerging markets like Nigeria, agency problems may be more pronounced due to weaker regulatory environments as found in this study. Therefore, the theory ensures that principals closely monitor the activities of the management by ensuring good audit committee structure that serves as watch dog on the operating activities of the management to ensure wealth maximization of the owners.

1.2 Background of the Study

Corporate governance is the way through which minority shareholders safely guard their interest against the confiscation of or expropriation by management and other controlling shareholders. According to John and Senbet (1998), corporate governance deals with mechanisms by which stakeholders of a corporation exercise control over corporate insiders and management such that their interests are protected. Stakeholders include but not limited to shareholders, employees, regulators, lenders, and other creditors. A key area of conflict is balancing the interest of these stakeholders by ensuring that the management that is responsible for running the organization takes decisions that are optimal to most of the stakeholders. The essence of corporate governance is therefore to address the agency conflict created between ownership and control of an organization (Naciti, Cesaroni & Pulejo, 2021).

The concept of corporate governance has therefore been explained in both literature and by international organizations. OECD (2004) provided a comprehensive definition of corporate governance as a set of relationships between a company's management, its board, shareholders and other stakeholders. It represents the controls, processes, policies, rules and proceedings instituted by the Board and Management of a company to ensure the smooth running of the company, maximize shareholders wealth and satisfy the interest of every stakeholder. Owolabi (2013) on the other hand opined that, corporate governance is the set of processes, customs, policies, laws and regulations affecting the way a corporation or company is directed, administered or controlled.

Companies listed on the Nigerian Exchange (NGX) are fundamental to the economic growth and development of the nation. It constitutes the production sectors of the economy and contributes to the macro economic development of the country such as employment, GDP and the living standard of the citizenry (Osundina, Olayinka & Chukwuma, 2016). To this extent the fiscal and monetary policy of the nation (e.g taxation and monetary policy rate respectively) are geared towards creating favourable and conductive environment among other benefits for all companies in this category. Therefore, strong and robust corporate governance structures will help improve access to capital and financial markets, enhance level of transparency and stakeholders engagement and increase market value of the company.

However, weak corporate governance structure will largely contribute to systemic failures, corporate scandals and other forms of malfeasance, SEC (2008). The major cause of these issues has been traced to weak corporate governance (Bhimani 2008). In Nigeria the corporate scandals of Cadbury in 2006 led to the restatement of the accounts and the shareholders' funds was battered by over ₦13Billion, (Lincoln & Adedoyin 2012). Investors and other stakeholders were severely affected as the expose of unethical practice of executives led to panic in the then Nigerian Stock Market as investors began to dump their shares in the market. Experts and professionals have argued that the collapse of many big corporations is to a large degree as a result of weak corporate governance practice and several examples exist to support this assertion e.g. Worldcom, Enron and Adelphia. This presupposes that well governed companies have a premium on their price in terms of valuation as posited by Oyejide and Soyibo (2001).

With regards to how well a business perform in meeting its obligations to stock/debtholders, OECD (2004) affirmed that corporate governance practices are to be seen as laws and regulations which increases the financial stability and growth of the firm through reinforcement of integrity, confidence and efficiency. In the same vein, Osundina, Olayinka and Chukwuma, (2016) asserted that sound governance practice increases the corporate performance and accessibility to external finance that enhances firms' performance and brings sustainable growth. They further stated that sound corporate governance results in decreasing cost of doing business and of capital. This suggests that firms requiring more external finance can have advantage of adopting sound corporate governance that can lessen their cost of borrowing and higher tendency to gain access to external finance.

It is no doubt that when corporate governance is weak as stated in literature above, businesses will find it difficult to meet its obligations because the cost of debt or borrowing cost is high (Jantadej & Wattanatorn, 2020). Borrowing cost was defined by Ertugul and Hedge (2008) as the cost that companies incur when obtaining external financing from lenders or other debt providers. The most common measure for the cost of debt used in literature is the yield spread (Duffie, (1998); Anderson, Mansi & Reeb, (2004)). The yield spread is the weighted average debt yield to maturity in excess of the duration equivalent to treasury yield. Prior studies had also used yield to maturity on the first debt issue of year t+1 as proxy for cost of debt (Schauten & Blom 2006). Yield to maturity represents the effective rate of interest that equates the present value of the principal and interest payments with the amount paid by the lender. Other measures of cost of debt include the average interest on a firm's debt and the total interest cost to the firm on its first debt issue of year t+1 (Piot & Missonier-Piera 2007).

Borrowing costs are costs incurred and payable by a borrower for the use of the funds provided by a lender (which could include shareholders and other internal stakeholders). Wattanatorn, Padungsaksawasdi, Chunhachinda, and Nathaphan (2020) opined that so many businesses in developing and developed economy most especially Thailand rely on debt financing. Borrowing costs are typically contractual and consist of fees and interests. Most borrowing costs are recognized as an expense deducted from the company's operating profit. IAS 23 however allows the capitalization of borrowing costs that are directly attributable to the acquisition, construction, or production of a qualifying asset. In such instances, the borrowing cost is included in the cost of the

asset. Where borrowing costs are capitalized, a review of the audited financial statements would not reveal same. This portion of borrowing costs are typically not material and, in most cases, similar to (or exactly same as) the expensed component. Borrowing costs is therefore cost of having debt in your capital structure and cost of equity is expected return on investment by owners of the company.

Lorca et al. (2011) confirmed that corporate governance practice measured by the number of annual board meetings influences the cost of debt of sampled companies. Previous studies demonstrate conflicting evidence on the relationship between corporate governance measured by board effectiveness (in terms of numbers of meetings held) and the cost of debt. Fields et al. (2012), and Pham et al. (2012), found a negative relationship between the cost of debt and board independence and board size, while Lorca et al. (2011) found no relationship between them. Ashbaugh-Skaife et al. (2006) examined the effect of corporate governance practices (board independence and board expertise) on bonds' credit ratings. They found that more effective board positively relates to higher credit ratings. Inconsistent with those of Jiraporn et al. (2013) which shows that an improvement in corporate governance will inflates the agency cost of debt.

The contributions of this study are in twofold. First, this study expands existing literature on the domain of corporate governance in relation to borrowing cost by the development of an empirical model of the influence of corporate governance on borrowing cost through the controlling influence of firm size and agency cost. Second, this study provides an insight into how corporate governance practices improve borrowing cost with the mechanism of the controlling influence of firm size and age on the link between corporate governance practices and firm value by developing a corporate governance rating score (as the main measure of corporate governance structure).. These contributions may likely be of great interest to owners, directors, managers and policy makers in terms of a value-adding mechanism for businesses on the basis of a balance of benefits for all different stakeholders towards sustainable economic, social and environmental values.

1.3 Objective of the Study

The main objective of this study is to evaluate the relationship between corporate governance and borrowing cost of listed companies in Nigeria. Specific objectives are to:

1. Investigate the impact of board structure on borrowing cost of companies listed on the Nigeria Exchange.

2. Examine the impact of audit committee structure on borrowing cost of companies listed on the Nigeria Exchange.

1.4 Research Questions

Arising from the above objectives, this study aims to provide answers to the following research questions:

1. How does board structure affect borrowing cost of companies listed on the Nigeria Exchange?

2. How does audit committee structure affect borrowing cost of companies listed on the Nigeria Exchange?

1.5 Research Hypothesis Development

In line with the philosophy of agency theory by Jesnsen and Meckling (1976), the stuidy hypothesize a negative relationship between corporate governance structure and the borrowing cost that an improvement in corporate governance structure makes management to make unfavorable decisions to bondholders, either over-investment or underinvestment. Advising and monitoring roles of board of directors are executed through the different proxies of board structure as used in this study.

Hypothesis One

Pahlevi (2023) opined that Corporate Governance as a concept was first introduced in 1992 by the Cadbury Committee which is also known as the Cadbury Report. Fathonah, (2017) asserted that this document gave the origin of complex terms in corporate governance and the definition of corporate governance itself. Early studies on corporate governance were traditionally aimed at investigating if and how a specific firm-level governance mechanism could satisfactorily address firm-level agency issues (Kumar & Zattoni, 2019). In this view, corporate governance mechanisms should be designed to restrain powerful insiders' inclination to maximize their benefits, by either monitoring their behavior or aligning their interests with those of the company. Corporate

governance is defined in literature as a structured system for the purpose of managing a company to enhance the shareholder's value (including other stakeholders) in the company (Priambodo & Supriyatno, 2007). Aprianingsih and Yushita, (2016) affirms that sound corporate governance is a non-financial component however it has an important role that needs to be considered in increasing the profit and performance of an entity. They added that in its implementation, sound corporate governance applies principles similar to those used by financial institutions, which are transparency, accountability, responsibility, independence, and the principle of fairness.

Pahlevi (2023) further opined that sound corporate governance (CG) is a must for all parties involved because good CG has an important role in various ways, including improving performance and organizational culture in a company. Its implementation is very important in anticipating and reducing opportunistic behaviour of management which will ultimately result in sound company performance (Putri & Dwija, 2012). Chi Kung Ho's study of 2005 on sound corporate governance concluded that the more conformity to the corporate governance principles, the stronger the firm's competitiveness. The study further posited that, corporate competitiveness is much stronger when corporate governance is evaluated on a holistic basis than on an individual dimension or attribute.

The Board structure is a vital element in the governance of any company (Chris & Dimitrios, 2014). It determines the quality of members of the Board in terms of effectiveness (attendance in meetings and number of meetings held), independence, size, and diversity. The existence of a high proportion of outside directors, members with versatile experience and a board that is gender sensitive will promote best practice governance culture that will serve the interest of all bondholders. (Karavitis, Kokas, & Tsoukas, 2021).

Kulaya and Woraphon (2020) posit that borrowing cost plays an important role in financial decision-making for companies, individuals, and even governments. The cost of borrowing funds from external sources, such as loans or debt securities, affects investment choices, business expansion, and overall financial stability of the business.

Klapper and Love, (2004) opined that managers must always as a matter of importance assess the cost of financing because with this way, they will be able to evaluate investment projects and determine their capital budgeting. Therefore, investors are expected to assess the overall risks and

benefits, by assessing the activities of the company. Financing concept is based on the assumption that the company's goal is to maximize shareholder wealth. In fact, there is a relationship between company's financing decisions and investment decisions (Stulz, 1999).

Therefore, the board of listed companies acts as an important governance mechanism in aligning the interest of managers with debtholders. It has the responsibility to instruct and monitor senior management (Sheikh & Wang, 2012). In line with the postulations of agency theory, the independence and effectiveness of director is expected to reduce agency cost i.e. borrowing cost (Yermack, 1996). Therefore this proposition is aimed at examining the impact of board structure as a subset of Corporate Governance structure on the performance of firms quoted on the Nigerian Exchange hence board structure does not have significant effect on borrowing cost of companies listed on the Nigerian Exchange. Effectiveness of corporate boards is improved by the meeting attendance behavior (Lin et al., 2014). Attendance of board meetings represents contributed efforts and the attention of individual board members (Lin et al., 2014; Chou et al., 2013). The relationship between effectiveness of corporate boards and the cost of debt is hypothesized as follows.

$H_0$1 = Board structure does not have significant effect on borrowing cost of companies listed on the Nigerian Exchange

Hypothesis Two

The audit committee is one of the most important governance mechanisms that is designed to ensure that a company produces relevant, adequate and credible information that investors as well as independent observers can use to assess the performance of the company (Habib, Ranasinghe, & Perera, 2023). The audit committee ensures that the external auditor receives all the necessary information that are required to carry out the audit process independently and effectively and that the functioning of the external auditor is not subjected to the pulls and pressures of the inside management. The audit committee sets the scope of audit and terms of engagement of the external auditor and continually monitors its functioning and progress. Given the importance of the audit committee in corporate governance, it is not surprising to find that regulations all over the world to have placed a major emphasis on the structure, role and powers and the functioning of the audit committee.

As opined by Okpara (2011), a major issue with respect to audit committees is its independence from the management. The management, with help of the internal auditors prepares the financial statements in accordance with the established accounting principles. The external auditor has the responsibility to audit and attest to the truth and fairness view of these financial statements. For verification of these financial statements, the auditor requires access to all necessary documents and a truthful explanation of all procedures. It is unlikely that this can be expected from the inside management whose very actions is the subject of the auditing process. Even granted management is truthful, there is a need to insulate the verification process from the influence of the inside management so that outsiders perceive the audit process as independent as they cannot directly observe the managers truthfulness. Under these circumstances, the independence of the audit committee becomes crucial. To achieve this the committee is expected to conform to the standards set by SEC and CAMA (1990), in terms of size, composition, financial literacy on committee members and number of meetings held in a financial year.

Audit Committee is an important governance mechanism that ensures that the internal control structures of the firm are effective and safeguard the integrity of financial reporting system that guarantees credible information. Audit committee must be seen to be independent from management (Conyon & He, 2011) otherwise the perception of shareholders or investors about the firm may be misconceived. In this study, the variables considered to enhance the integrity of the Committee are size of the Committee, proportion of non-executive directors (Anderson et al., 2004), proportion of financial literate directors (Shan & Mclver, 2011) and number of meetings held.

Research by Anderson and Lee (2017) found that factors such as creditworthiness, market interest rates, inflation, and macroeconomic conditions significantly influence borrowing costs for companies. Furthermore, Smith et al. (2019) and Johnson (2020) indicate that the size and duration of the loan facility, as well as the type of collateral provided, also play key roles in determining borrowing costs for businesses especially those listed firms.

The relationship between borrowing cost and financial performance has been extensively studied. Chen and Wang (2018) discovered that higher borrowing costs can lead to reduced profitability for firms, especially in industries with higher levels of financial leverage. Conversely, low borrowing costs can stimulate investment and promote economic growth, as evidenced in research by Kim and

Park (2019) on the impact of interest rate policies.

The influence of borrowing costs extends beyond individual listed companies, it has broader macroeconomic implications. Brown and Davis (2016) highlighted that changes in borrowing costs can affect consumer spending, housing markets, and overall business sentiment. In addition, Fernandez et al. (2020) emphasized the importance of central bank policies in managing borrowing costs to stabilize economic growth and control inflation, this shows how importance borrowing cost is as a variable to any economy and individual businesses.

The audit committee is an important governance mechanism designed to ensure that a company produces relevant, adequate and credible information that investors as well as independent observers can use to assess the performance of the company. The appointment of audit committee is the requirement of Company and Allied Matters Act and Securities and Exchange Committee. The primary role of audit committee is to monitor performance and ensure transparency and accountability in the operations of the company and this serves the argument of agency theory in reducing agency cost. SEC code of corporate governance (2008) prescribes for a minimum board size of four with higher proportion of members being non-executive directors and the committee to meet at least four times a year. Therefore this research will investigate the relationship of between audit committee structure and borrowing cost hence the study hypothesized that there is no significant relationship between the two variables.

$H_0$2 = Audit committee structure does not have significant effect on borrowing cost of companies listed on the Nigerian Exchange

1.6 Scope of the study

The purpose of this study is to investigate the impact of corporate governance on borrowing cost. The study relied on secondary data acquired from listed companies' annual reports and Accounts, over a period of ten (10) years, from 2013 to2022. The population of this study will consist of all listed companies on the Nigerian Exchange Limited NGX as at December 31st, 2023.

1.7 Definition of terms

Corporate governance: Corporate governance refers to "the whole set of legal, cultural and institutional arrangements that determine what public corporations can do, who controls them, how

that control is exercised, and how the risks and return from activities that they undertake are allocated", (Blair, 1995). Similarly, according to (OECD, 2004), Corporate governance is the system by which business enterprise are directed and controlled.

Borrowing Cost: Borrowing costs are costs incurred and payable by a borrower for the use of the funds provided by a lender (which could include shareholders and other internal stakeholders). Borrowing costs are typically contractual and consist of fees and interests. Most borrowing costs are recognized as an expense deducted from the company's operating profit.

Performance: In the context of this study it is defined as the effectiveness of policies and strategies in the achieving of goals and purposes. Likewise it is understood as the efficiency in terms of deployment of resources. Equally it can be construed to mean the financial viability of the firm the basis on which we can measure.

Principal: A person who is legally empowered to on his own authority to act or can appoint another person to act on his behalf. Such persons may be individuals, corporations, not-for-profit entities and government agencies.

Agency: A contract where the agent sells his principals goods in accordance with the principal's instructions and can pass title to a buyer (Keenan and Riches, 1992).

Agency Cost: These are costs that arise from conflicts of interest between the principals and agents within a company. These costs come because of the need to ensure that agents act in the best interest of the principals rather than pursuing their own self-interests. The agency cost of debt is usually explained in the context of the risk-shifting problem and the underinvestment problem.

The rest of this thesis is structured as follows; the second section deals with literature review. The third section contains the methodology. The fourth section deals with data analyses and interpretation including the discussion of findings while the fifth section is on the conclusion, making specific reference to the main takeaway for the project and recommendations.

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CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The literature review of this study is divided into different sections which include conceptual review, theoretical review and empirical review. The conceptual review will explain the concept corporate governance and borrowing cost. The theoretical review appraised the theory used for the variables. Empirical review is carried out around the objectives of the study. All the reviews were done by analysing existing extant literature on corporate governance and borrowing cost.

2.1 Introduction

Although corporate governance plays a pivotal role in protecting the interest of all its stakeholders most especially the investors and debtholders, the effect of corporate governance on borrowing

costs remains unclear. Every business has two major sources of finance; debt and equity (capital structure). This is why benefits to shareholders might be different from those of debtholders (Jantadej & Wattanatorn, 2020). However, focus evidence from prior literature had often been on equity which is related to shareholders and their wealth maximization (Naciti, Cesaroni, & Pulejo, 2021; Khatib & Nour, 2021; Owolabi & Dada, 2011). Notwithstanding, prior evidence also exists on debt (cost of debt). In this respect, evidences are however mainly from European and Asian countries (Bradley & Chen, 2015; Jiraporn et al., 2013; Fields et al., 2012; Pham et al., 2012; Lorca et al., 2011; Ashbaugh-Skaife et al., 2006; Klock et al., 2005; Bhojraj & Sengupta, 2003; Han, Kang, & Shin, 2016) and this justifies the focus of the researcher on this phenomenon in a developing economy.

Prior studies on the relationship between corporate governance and borrowing cost are not only limited but are focused within the framework of the conventional US/UK model of corporate control which examines corporate governance from the perspective of ownership structure, the exposure to the market for corporate control or both on the cost of borrowing. Fewer studies have investigated the effect of corporate governance mechanisms (board effectiveness) on the cost of debt financing using Spanish model which is based on “explain or comply” principle in the enforcement of corporate governance regulations, the presence of a few large dominant shareholders who may exert a strong influence on management, low independence of boards with the members of the board mainly representing the controlling shareholders, low developed capital markets and no active market for control. Thus, whereas in US and UK control is exerted mainly by the markets, in Nigeria internal control mechanisms are dominant. Board implemented internal controls are likely the way to manage differences between debtholders and managers. Furthermore, in Nigeria companies depend more on bank loans for external financing, however in US/UK most funds are raised through public capital and debt markets (Carmen et al, 2011).

Chava et al (2009) opined that because of the banks and other private lenders’ relationship with the borrowing company and their privilege to information than other public lenders, they are more efficient and effective monitors than public bondholders. It is worth questioning whether corporate governance affects the cost of borrowing for companies in a bank-based financial system, where banks are the major source of financial resources. In this sense, Nigeria is considered as a good

paradigm for studying the effectiveness of corporate governance practice in improving the cost of borrowing. This research will specifically be focused on board and audit committee independence, board size, CEO duality, and director's expertise as measures of corporate governance practice. Another attribute to be considered will be board activity in relation with borrowing cost which was only and last examined in the work of Carmen et al, (2011).

Debt financing has been adjudged in literature (Vijayakumaran, & Vijayakumaran, 2019a) to be the lowest and most preferred source of capital for organizations. Wattanatorn, Padungsaksawasdi, Chunhachinda, and Nathaphan (2020) opined that so many businesses in developing economies most especially Thailand rely more on debt financing. In finance, using the principle of risk and reward, debt is deemed cheaper than equity because equity holders take the residual risk in an organization (rank lower than debt holders in a winding up proceeding). Businesses operating on the continent of Africa prefer debt in financing their operations, sometimes with no full consideration for the costs attached to it. Borrowing costs are typically contractual fees and interests. Interest is mostly variable and driven by monetary policies over the tenor of the loan while fees are mostly negotiated subject to regulatory limits. Most borrowing costs are recognized as expense deducted from the company's operating profit. Therefore, borrowing costs are costs incurred and payable by a borrower for the use of the funds provided by a lender, however, evidence from prior literature (Lorca et al. 2011; Field et al. 2012 & Pham et al. 2012) shows that this concept is synonymous to cost of debt. A lender could also include shareholders and other internal stakeholders.

Businesses on the continent of Africa especially Nigeria are experiencing financial leverage and liquidity challenges (Olokoyo, 2013; Kwarbai, Olayinka, Ajibade, Ogundajo & Omeka, 2016; Osundina, Olayinka, & Chukwuma, 2016). This challenge is not only domiciled within African countries alone, Vijayakumaran and Vijayakumaran, (2019b) in their study, presented liquidity and leverage issues as experienced by Chinese Listed Companies. This research shows that companies globally are faced with challenges of how to meet both short and long term debt obligations to the debt/stockholders, hence always on the lookout for solutions or a way out.

Experts as well as literature (Jensen, 1993) have argued that failures based on financial leverage and liquidity of many big corporations is to an extent traceable to non-compliance with internal

control system and corporate governance principles. Strict compliance to sound corporate governance principles leads the business towards the achievement of higher financial performance which includes the business's ability to meet its maturing obligations (Jensen, 1993). To this end, based on the problem identified, the present study seeks to examine the impact of corporate governance practices on borrowing cost. That is, to investigate whether sound corporate governance structure will help reduce a company’s borrowing costs using the selected companies listed on the Nigerian Exchange Limited or not.

Companies listed on the Nigerian Exchange (NGX) are considered critical to the economic growth of Nigeria. They play a key role in foreign portfolio investments. The NGX, with an understanding of this role amongst others, has put in place rules and regulations that ensure adequate disclosures by companies listed on its platform. Access to research data on these companies will, therefore, be assured since they are mandated by law to make their records in terms of performance available to the public quarterly and annually. These companies contribute to the macro-economic development of the country in terms of employment, GDP, and the quality of living standard of the citizenry (Osundina, Olayinka & Chukwuma, 2016).

Sound corporate governance practices help organizations to be more accountable to its numerous stakeholders to whom the organizations have legitimate, authoritative, social, and market-driven commitments. It includes workers, financial contributors, credit managers, suppliers, nearby organizations, customers, and decision-makers (Ma'aji et al., 2021). Powerful administration contributes to the turn of events and expands access to capital by enabling new speculations, assisting financial development, and providing business opportunities. Ma'aji et al., (2021) affirmed that a sound corporate governance practice by listed firms will increase financial backers' certainty, however, it will decrease the likelihood of capital outflow from the economy, and expands capital inflow into the economy.

2.2 Empirical Review

This section describes previous studies with respect to corporate governance practices and borrowing cost of companies. The section is divided into sub-sections; corporate governance and cost of debts, and corporate governance and cost of equity.

2.2.1 Corporate Governance and Cost of Debt

Corporate governance (as a set of policies and law) is the way through which fund providers safely guard their interests against the confiscation of or expropriation by management and other controlling shareholders. John and Senbet (1998), also affirmed that corporate governance deals with mechanisms by which stakeholders of a corporation exercise control over corporate management such that their interests are protected. They argued that stakeholders include but are not limited to shareholders, employees, regulators, lenders, and other creditors. A key area of conflict is balancing the interest of these stakeholders by ensuring that the management that is responsible for running the organization takes decisions that are optimal for most, if not all, of the stakeholders. The essence of corporate governance is therefore to address the agency conflict created between ownership and control of an organization (Naciti, Cesaroni & Pulejo, 2021). Johnson and Greening, (1999) also support the aforementioned position by saying corporate governance helps to defend the interest of investors and protect fund providers (creditors). This view is same as the one opined by Shleifer and Vishny, (1997).

The interest of fund providers is to be assured that the company will continue to perform well in meeting its obligations to stock/debtholders, OECD (2004) affirmed that corporate governance practices are to be seen as laws and regulations which increase the financial stability and growth of the firm through reinforcement of integrity, confidence and efficiency. In the same vein, Osundina, Olayinka and Chukwuma, (2016) asserted that sound governance practice increases the corporate performance and accessibility to external finance that enhances firms' performance and brings about sustainable growth. They further stated that sound corporate governance practices result to decrease in the cost of doing business and cost of capital. This suggests that firms requiring more external finance can adopt good corporate governance practices to increase their chances to access same and to reduce their cost of borrowing.

By extension, weak corporate governance structure will largely contribute to systemic failures, corporate scandals and other forms of malfeasance, SEC (2008). Bhimani, (2008) also posited that corporate failures are evidence of weak corporate governance. These assertions are evidenced in Nigeria in the corporate scandals of Cadbury in 2006 that led to the restatement of the accounts and the shareholders' fund (book value of stockholders' wealth) was battered by over ₦13Billion,

(Lincoln & Adedoyin 2012). Investors and other stakeholders were severely affected as exposing the unethical practices of executives led to panic on the then Nigerian Stock Exchange (as it was called then) when investors began to dump their shares in the market. Oyejide and Soyibo (2001); Momoh and Ukpong, (2013) studies are also in line with other literature as they affirmed that the collapse of many big corporations is, to a large degree, as a result of weak corporate governance practice. The latter specifically states that the most financial crisis in Nigerian Banks and Manufacturing companies has been traced to weak corporate governance, by extension; most of the companies in this category are often exposed to high cost of borrowing.

Lorca et al. (2011); Field et al. (2012) and Pham et al. (2012) affirmed that the concept of borrowing cost is synonymous to cost of debt. Borrowing cost was defined by Ertugul and Hedge (2008) as cost incurred by companies when obtaining external financing from lenders and other debt providers. The most frequently used measure of cost of debt in literature is the yield spread (Duffie, 1998; Anderson, Mansi & Reeb 2004). The yield spread is the weighted average debt yield to maturity in excess of the duration equivalent to treasury yield. Prior studies had also used yield to maturity on the first debt issue of a particular year plus 1 as proxy for cost of debt (Schauten & Blom 2006). Yield to maturity represents the effective rate of interest that equates the present value of the principal and interest payments with the amount disbursed by the lender. Other measures of cost of debt are the average interest on a firm's debt and the total interest cost to the firm on its first debt issue of a particular year plus 1 (Piot & Missonier-Piera, 2007). It is no doubt that when corporate governance is weak as earlier asserted, businesses will find it difficult to meet their obligations which includes the principal debt and associated cost of debt or borrowing cost (Jantadej & Wattanatorn, 2020).

Lorca et al. (2011) addressed weak governance by measuring corporate governance practice based on the number of annual board meetings held and it was found that the number of annual board meetings influences the cost of debt of sampled companies. The number of times annual board meetings are held therefore tells if a company has weak or strong corporate governance. However, Fields et al. (2012) shows contradicting evidence when board effectiveness was used as a measure of corporate governance with regards to cost of debt. Pham et al. (2012) assertion is in line with Lorca et al. (2011) where it was found that negative relationship exists between the cost of debt,

board independence and board size. However, Lorca et al. (2011) choice of proxies for measuring corporate governance differs.

Ashbaugh-Skaife et al. (2006) examined the effect of corporate governance practices (board independence and board expertise) on bonds' credit ratings, it was found that a more effective board positively relates to higher credit ratings. This is Inconsistent with those of Jiraporn et al. (2013) which shows that an improvement in corporate governance will inflate the agency cost of debt. Furthermore, Muhammad and Chao (2021) in their study which examines whether financial statement comparability reduces credit risk and lowers the cost of debt. They found that higher comparability reduces information asymmetry and makes monitoring of managerial activities easier, which reduces the cost of debt. However, it was found that the effect of comparability on cost of debt for state-owned enterprises is statistically insignificant. The finding also shows that competitive pressure and audit quality complement the relationship between comparability and the cost of debt. Summarily, their finding shows that better comparability improves credit decisions of the lenders and benefits borrowers by reducing the financing cost.

Kang and Xu, (2019) used executive stock ownership guidelines as a measure of corporate governance, examining it effect on debtholders' wealth. They asserted that, the ownership structure adopted by companies affects wealth of the debtholder. They also affirm that the adoption of ownership guidelines as a measure of corporate governance can improve the agency cost of debt by giving managers concrete/justifiable incentives to take risky projects with high, expected returns, thereby benefiting shareholders at the expense of debtholders (Jensen and Meckling 1976; LaFond and Roychowdhury 2008). Based on this assertion, debtholders, expecting such incentives, demand higher borrowing costs in terms of interest rates, require more/better collateral, or employ other covenants that restrict borrowers from taking risky investments.

Furthermore, Stulz (1984) opined that ownership guidelines adoption will benefit debtholders by reducing not only asset substitution challenges but also the level of information asymmetry between debtholders and managers. It is first of all assumed that, if managers who are risk-averse are required to hold a large equity stake in the company, then they will have strong incentives to reduce their non-diversifiable risk associated with the company by pursuing risk-reducing strategies, which lessens debtholders' asset substitution concerns as postulated by Smith and Stulz (1985). Second,

the guidelines involve a commitment by managers to hold a certain level of share ownership until leaving the company and, therefore, increase their longterm commitments and reduce their incentives to manipulate earnings to boost short-term profits.

Moreover, majority of ownership guidelines that require CEOs to obtain a minimum of equity ownership target as a multiple of base salary mandate CEOs to hold more stocks if the stock price falls. This ensures that CEOs always have sufficient incentives to exert effort (Edmans, Gabaix, Sadzik, & Sannikov 2012), which is also beneficial to debtholders. According to Stulz (1984), the adoption of ownership guidelines can affect both debtholders and shareholders differently through two mediums. First, guideline adoption reduces asset substitution problems (i.e., agency costs of debt) and, thus, benefits mainly debtholders. Second, it incentivizes the managers to work hard and improve financial reporting quality, which benefits not only the shareholders but also the debtholders.

It has also been established in literature that board committees (BDCT) and audit committees (ADC) can influence the reliability of financial report. Andersen et al., (2014) used secondary data from 500 sampled firms, descriptive statistics were used to describe the dataset, and panel analysis was carried out in testing hypotheses. The paper concluded that board committees (BDCT) and audit committees (ADC) significantly affect the reliability of financial reports. A similar study by Stefany and Joni, (2020) considered the effect of BDC on the cost of debt using secondary data obtained from 777 sample firm-years of the Indonesia stock exchange (ISE) between 2016 to 2017. The multiple linear regression and generalized method of moments (GMM) found that board size negatively affects the cost of debt while female board and independent board insignificantly affect the cost of debts. Although the researchers used a large sample size, the number of years was relatively small.

Some other literature had used board size, board meetings, and the percentage of non-executive and audit committee as a proxy for corporate governance, Jantadej and Wattanatorn, (2020) investigated the impact of corporate governance (measured by these proxies together with board effectiveness) on cost of debt using secondary data adopted from the Thailand Stock exchange and DataStream, Bloomberg, and the SEC filing database from 2007 to 2016. The study was analyzed using descriptive statistics and correlation matrix. The study revealed that board effectiveness is

significantly related to a higher cost of borrowing. It was also found that board size, board meetings, and the percentage of non-executive and audit committee positively related to cost of debt financing. This is in-line with the findings of Lorca et al., (2010), they investigated the effect of corporate governance on cost of debt by adopting secondary data from Spanish-listed companies between 2004 to 2007. They found that board size exerted an indirect effect on cost of debts.

In the same way, Schauten and Blom, (2006) used proxies such as rights and duties of shareholders, board structure and functioning, range of takeover defenses, and disclosure on corporate governance from 259 firms. The result from the multivariate analysis showed that sound corporate governance significantly reduces cost of debt. This is however contrary to the findings of Jantadej and Wattanatorn, (2020). Wibowo and Nugrahanti, (2010) used proxies such as managerial ownership, board of directors' size, independent directors ratio, institutional ownership, and audit quality to measure corporate governance. Secondary data were gathered from the Indonesia Stock Exchange from 2008 to 2010. The regression analysis showed that managerial ownership and the size of the board of director insignificantly influences the cost of debt.

Bradley and Chen, (2011) in their study on corporate governance and cost of debt adopted expost facto research design and used a sample of 1500 firms covering the period from 2002 to 2007. They found that, poor governance enables corporate directors to pursue moderately acceptable corporate deals that reduce agency costs of debt and thus benefit investors. This assertion is in line with the work of Brook and Rao, (1994) and the findings of Jantadej and Wattanatorn, (2020 which concluded that there is a positive relationship between effective corporate governance and cost of debt.

Several literature had examined each of these variables (executive compensation, board compensation practices, earnings-based bonus plans, and agency cost of debts) in relation to other variables. Duru et al., (2005), is one of those studies which examined the impact of earnings-based cash bonus compensation on agency conflicts with debt holders, covering 1836 firms from 1992 to 1997. The study discovered that earnings-based bonus plans significantly decrease the agency cost of debts. Also, Ertugrul and Hegde, (2008) used equity-based compensation to measure board compensation practices using secondary data obtained from ten years dataset from the Mergent bond record. They also found that equity-based compensation significantly impacts bondholders.

Kabir et al., (2013) in the same vein, examined the effect of executive compensation on the cost of debt. The study concluded that corporate bondholders are entirely aware of the risks and risk-aversion enticements formed by different components of managerial reimbursement.

Evidence from listed financial institutions as opined by Paige et al., (2012), shows that, quality of board significantly impacted the cost of bank debt. They also found that board characteristic significantly affects borrowing costs of banks, and this resulted to reduction in loan rate. Contrary to this, Chava et al., (2008) study on the cost of borrowing and borrower characteristics which also investigate the relationship between shareholder right and cost of bank loans. They found that, lower takeover defenses raise the cost of loans. Similarly, Cremers et al., (2007) study on governance mechanisms and bond prices discovered that shareholder's control is associated with higher yields if the firm is vulnerable to acquisitions. Klock et al., (2005) on the other hand investigated the relationship between cost of debt financing and governance index using an investors research responsibility Center dataset from 1990 to 2000. The findings indicate that corporate governance provisions are observed positively in the bond market while not benefiting stockholders.

However, Liu et al., (2015) investigated the relationship between corporate governance measured by board independence and performance instead of cost of debt. The study was carried out in China using Shanghai and Shenzhen Stock Exchanges data from 1999 to 2012. They concluded that board independence has a significant effect on firm's performance. In Bangladesh, Rashid, (2018) used 135 listed firms on Dhaka Stock Exchange, the study concluded that board size significantly influenced board independence and firm performance. Similarly, Blom and Scharten, (2006) conducted an empirical investigation into the impact of corporate governance on a firm's cost of debt based on the hypothesis that debt holders consider a firm's corporate governance when evaluating its risk profile and calculating its default risk. The idea that the risk profile impacts the necessary return by debt holders, which in turn dictates the firm's cost of debt, further supports this viewpoint. This assertion is consistent with the findings of Sengupta, (1998), the study found that corporate governance is adversely correlated with cost of debt and replicated Francis et al., (2005) which opined that, when default risk is high, and the cost of debt is also high.

Uribe-Bohorquez et al., (2018), however introduced institutional context as a moderating effect

between corporate governance practice and firm performance. The study made use of ex-post facto research design with samples of 2185 companies from 2006 to 2015. The paper concluded that corporate governance as measured by board independence improves the company's technical efficiency. Likewise, Shan, (2019) evaluated the related bi-directional among managerial ownership, board independence, and firm performance. The study concluded that managerial ownership and board independence indirectly affected firm performance. This is in line with the assertion of Uribe-Bohorquez et al., (2018); Shan, (2019), and Coles et al., (2008).

Frantz and Instefjord, (2013) explained the relationship between corporate governance and borrowing cost theoretically. The study found that governance mechanisms significantly influenced the incentives for risk shifting. However, Türegün, (2016) through empirical study, investigated the effect of borrowing cost, firm size, and board independence on earnings management type. The study found that firms' practices efficiently influence earning management. Chen and Qiu, (2016) found a similar result, which was the fact that lending relationships mitigate CEO risk-taking incentives' effect on loan spreads, this is line with the findings of Hollis, Daniel and Ryan (2006).

Amahalu et al., (2017) investigated the effect of board size, ownership concentration, and board independence on the borrowing cost of brewery firms listed on the floor of Nigerian Exchange from 2010 to 2015. The study found that board size, ownership concentration and board independence significantly affect borrowing cost of the sampled listed firms. Mbonu and Amahalu, (2021) also examined six (6) conglomerates listed on the Nigerian Exchange from 2010 to 2019. The study found that board gender, age, and geographical diversity significantly affect borrowing cost. Karavitis et al., (2021) also investigated how female board representation affected lending costs, evidence from 386 banks coordinated with 2,432 non-monetary firms from 1999 to 2013. According to the findings, organizations with female CEOs have lower credit spreads.

Furthermore, female board representative has a more substantial influence in reducing cost of borrowing when compared to their counterparts. However, the impact becomes less intense as firms form relationships with their banks/loan provider. Finally, when firm-level heterogeneity was presented, it was discovered that changes in orientation variety have a more grounded influence on lending costs for bank-subordinate firms, particularly for relationship borrowers. However, the result of Roberts and Yuan, (2010) is contrary to the findings of Karavitis et al., (2021), where the

study found a negative relationship between institutional ownership and the cost of bank borrowing.

Also, Gong (2015) examined corporate governance structure and firm debt costs with focus on the 2008 banking crisis in Nigeria. The study found that cash flows and growth potentials positively influence a firm's cost of debt. This finding is consistent with the work of Piot and Missonier-Piera, (2009) where they also found that corporate governance quality significantly reduces cost of debt. Andersen et al., (2014) however investigated the influence of late budgets on state government borrowing cost using 26 US states from 1988 to 1997. The study discovered that states with adequate liquidity potentially face no costs as a result of late budgets, whereas unified governments face significant consequences for failing to complete a budget on time.

However, Paige, Donald and Avanidhar (2012) analyzed the relationship between comprehensive measures of board quality and the cost of debt capital as well as the non-price terms of the bank loan. The study found that firms that have higher quality boards with a greater advisory presence borrow at lower interest rates. This relation exists even after introducing control variables (ownership structure, CEO compensation policy, and shareholder protection, as well as the size and financial characteristics of the borrower and of the loan). The study also show evidence that board quality and other governance characteristics influence the likelihood that loans have covenant requirements, but the relations differ by covenant type. When the direct and indirect costs of bank loans were combined, the study found that firms with large, independent, experienced, and diverse boards and lower institutional ownership borrow more cheaply. Summarily, they concluded that board quality impacts the cost of bank debt.

Furthermore, some other studies considered other variables other than corporate governance as an explanatory variable while using borrowing cost as the explained variable. Chang et al., (2021), work is an example of such; the study used earning management as an explanatory variable, however borrowing cost was used as a response variable, while directors' and officers' liability insurance were used as moderating variables. The study found that borrowing cost positively correlated to real earnings management but negatively correlated to directors' and officers' insurance liability. Waga et al., (2021) also examined the relationship between risk aversion and leverage-dependent and borrowing cost. They found a significantly negative correlation between

the variables of interest. Lee et al., (2022) selected dual-class share structure as an explanatory variable while using dynamic borrowing cost as a response variable. The investigation discovered that lending banks use advantage data to hold up bank subordinate double-class firms for higher borrowing cost than single-class firms in the middle phase of the existence cycle.

Other researchers used borrowing cost as an explained variable and other variables as explanatory variables. The explanatory variables include practicing earnings management, private firms, fiscal decentralization, pricing decisions, financial data, transparency, pricing decisions, political sentiment etc. The study of Mortal et al., (2019) worked on the difference between private firms and public firms holding cash using evidence from the cash holding and borrowing cost. Their analysis revealed that European private firms hold less cash than public firms due to borrowing cost. However, Karavitis and Kazakis, (2022) evidence from multinational companies examined the effect of political sentiment and syndicated loan on borrowing cost. The result showed that multinational companies with a reduced political sentiment have a higher cost of lending. This is in line with Hatem (2017), which opined that low levels of managerial opportunism result in firms enjoying lower corporate bond costs and higher credit ratings. Also, the findings suggest that higher bond costs and lower credit ratings are generally associated with income-increasing earnings management activities.

De Mello, (2001) used evidence from local government to explain the decentralization of expenditure functions and revenue sources to lower tiers of government borrowing cost. The study is similar to the study of De Mello, (2001), Thornton and Vasilakis, (2017) which uses 101 unconventional and developing countries for twenty-six (26) years. They found that fiscal rules have large and significant effects on government borrowing cost using international and domestic financial markets.

Kamstra et al., (2013) provided a clear understanding of the secondary loan market benefiting the issuers of loans. Kamstra et al., (2006) however, opined that loan resales are a significant setback, and some of the adverse effects are attributed to the reduced monitoring efforts associated with a loan resale. Ghosh, (2019) investigate the lending cost relationship hypotheses. According to the evidence, smaller, established, leveraged, and high-growth firms charge higher interest rates. Also, promoted firms charge lower rates, and bank and firm ownership influence borrowing cost.

Further research from different scholars (Copelovitch et al., 2018) demonstrated that transparency negatively affects sovereign borrowing cost. Druzhilovskaya, (2021) explained the modern features of accounting using borrowing cost. The work of Tkačevs and Vilerts, (2019) investigated the impact of government on borrowing cost using fiscal discipline. The findings implied that a decrease in borrowing cost leads to a deterioration in fiscal policy stance.

2.2.2 Corporate Governance and Cost of Equity

Extant literature on cost of equity as a measure of capital structure in the same class of cost of debt were also reviewed. This is to affirm the relationship found with regard to the main variable for the study (cost of debt). Khan et al., (2020) used emerging markets to examine corporate governance and the cost of capital. The study revealed that the Pakistani corporate governance index (PCGI) and block ownership have a negative and significant relationship with the firm-level cost of capital. Typically, better-governed Pakistani listed firms have lower cost of capital than their poorly governed counterparts. In an emerging market, sound corporate governance practices are primarily geared towards reducing corporate failure and assisting firms in attracting capital at a lower cost. Hodges et al., (2014) found that firms with better corporate governance have lower costs of equity and debt. However, the study discovered that the negative relationship between cost of capital and governance is more pronounced for firms in highly competitive industries. That is, if industry competition is weak, the relationship between governance and cost of capital does not hold.

Evidence from Australian companies as shown in the work of Pham et al., (2012), on corporate governance and cost of capital also provide foundation for the findings of Hodges et al., (2014) and Tran, (2014). The study revealed that the cost of capital decreases as the quality of corporate governance practices improves. Tran, (2014) used a shred of evidence from Germany to find how corporate governance affects the cost of debt and equity capital. Based on the findings, firms with high levels of financial transparency and bonus compensation have a lower cost of equity. Furthermore, stockholders are other firms, managers, or founding-family members; block ownership negatively affects the firm's cost of equity.

Huang, (2004a) examined the effect of firm-level variation in shareholder rights on the ex-ante cost of equity capital using a sample of 8,836 firm-year observations. In his review, shareholder rights refer to shareholders' ability to remove managers. Weak shareholder rights recommended that poor

performers could entrench themselves, raising the cost of capital. An elective hypothesis holds that weak shareholder rights create job security for managers, which reduces managerial myopia and motivates them to allocate funds for long-term projects that benefit the company which will contribute to lower cost of capital. The extent of shareholder rights represented governance rating as embraced by Gompers et al., (2003).

Bhattacharya and Daouk, (2002) looked at the influence of insider trading laws and enforcement on the cost of equity capital in 103 countries using a multi-country approach study. The study identified that the prevalence of insider trading (by those in charge of governance) has two effects on the cost of equity capital. First, it causes a liquidity problem by increasing the selling price and decreasing the buy price. It is known as the price protection strategy, and it raises transaction costs and, as a result, affects the cost of equity capital. Second, controlling large shareholders may be persuaded to profit from insider information rather than monitor it, which is often complicated and ineffective. The impact of insider trading variables on the cost of equity capital is measured using four approaches: the event study, the international asset pricing factor model, dividend yield changes, and credit rating. According to this study, the mere existence of insider trading laws does not affect cost of equity capital, but strict enforcement of the laws is significantly related to a sharp decrease in cost of equity capital.

From 2001 to 2002, Chen et al., (2003) investigated the impact of firm-level exposures, corporate governance (non-revelation factors), and nation-level financial backer security factors on the cost of equity capital of 545 firm perceptions from nine Asian countries. According to this review, each of the three corporate governance factors negatively impacts cost of equity capital. However, firm-level management factors have a more significant impact on cost of equity capital than disclosure factors. Furthermore, it is discovered that country-level financial backer security is a good predictor of firms' cost of equity capital.

However, Hail and Leuz, (2004) investigated the impact of legal institutions and securities regulations on cost of equity capital. The idea that firms in countries with stricter disclosure requirements and stronger securities regulations have lower cost of capital was tested. The study made use of 35,118 firm-year observations from 40 countries from 1992 to 2001. The paper supported the theory that firms from countries with an effective legal system, extensive disclosure

requirements, and strict securities regulations appear to have more negligible cost of equity capital effects.

Pittman and Fortin, (2004) investigated the association between external auditor reputation and firms' cost of debt, the study affirmed that external auditors' reputation is critical to a company's financial reporting quality. The paper used a binary variable to identify companies that use one of the Big Six auditors to examine an independent audit of the correctness and reliability of their financial statements. This study discovered that organizations with the big six auditors as staff have lower average costs. This research implied that debt holders consider the auditor's reputation when assessing the value of financial information.

Review of Relevant Concepts

Board Size

The size of a corporate board has been a topic of extensive debate in corporate governance literature. Larger boards are believed to bring diverse skills and experiences, which can enhance decision-making and provide better oversight (Jensen, 1993). However, excessive board size may lead to coordination problems and reduce efficiency (Yermack, 1996). Studies such as Eisenberg et al. (1998) have shown a negative correlation between board size and firm performance, particularly in smaller firms. On the contrary, larger firms often benefit from larger boards due to the complexity of their operations (Coles et al., 2008).

Board Meetings

Board meetings serve as an essential platform for directors to fulfil their oversight responsibilities. Vafeas (1999) found that frequent board meetings improve the monitoring quality and firm performance. However, there is also evidence that excessive meetings may lead to inefficiencies and diminish the effectiveness of board oversight (Brick & Chidambaran, 2010). Optimal meeting frequency depends on firm-specific factors, such as complexity and performance (Adams & Ferreira, 2007).

Board Independence

Independent directors are considered a cornerstone of effective corporate governance. They are less likely to have conflicts of interest and are better positioned to provide unbiased oversight (Fama & Jensen, 1983). Research by Bhagat and Black (2002) indicates that a higher proportion of independent directors is associated with better monitoring and reduced agency costs. However, the relationship between board independence and firm performance is context-dependent, as other factors, such as industry and regulatory environment, play a role (Hermalin & Weisbach, 2003).

Board Diversity

Board diversity, in terms of gender, ethnicity, and professional background, has gained significant attention in recent years. Diversity enhances the board's ability to understand complex issues and address diverse stakeholder needs (Carter et al., 2003). Studies like those by Erhardt et al. (2003) have found a positive relationship between board diversity and firm performance. However, critics argue that diversity can sometimes lead to conflict and slower decision-making processes (Milliken & Martins, 1996).

Audit Committee Independence

The independence of the audit committee is crucial for ensuring unbiased oversight of financial reporting processes (Klein, 2002). Independent audit committees are more effective in detecting and preventing earnings management and fraud (Beasley, 1996). Regulators like the Sarbanes-Oxley Act of 2002 have emphasized the importance of audit committee independence in enhancing corporate accountability.

Audit Committee Size

The size of the audit committee can influence its effectiveness. A larger committee may provide diverse expertise and perspectives but can also suffer from coordination issues (Anderson et al., 2004). Studies such as DeZoort et al. (2002) suggest that the optimal size of the audit committee depends on the complexity of the firm’s operations and the specific governance needs.

Audit Committee Meetings

Frequent meetings of the audit committee are associated with improved financial oversight and reduced risk of fraud (Raghunandan & Rama, 2007). However, excessive meetings may not always translate into better performance and can sometimes indicate governance issues (Karamanou & Vafeas, 2005). The effectiveness of meetings depends on their quality rather than their frequency.

Audit Committee Expertise

The financial expertise of audit committee members is a critical determinant of their effectiveness. Committees with members possessing accounting and financial expertise are better equipped to oversee financial reporting and ensure compliance with regulatory standards (Krishnan, 2005). Empirical evidence suggests that firms with financially expert audit committees are less likely to experience restatements and fraud (Abbott et al., 2004).

2.3 Theoretical Review of Agency Theory

The capital markets where stocks of entities can be traded in units across national boundaries all

over the world are largely encouraged by the limited liability concept. This concept gave rise to the complex ownership structure where management is separate from ownership. This is the bedrock of the agency theory, the theory has its roots in economic theory, and it is very prominent in corporate governance literatures. Daily, Dalton and Canella (2003), point to two factors that influence the importance of agency theory. Firstly, the theory is a conceptually simple one that reduces the corporation to two participants, managers and shareholders. Secondly, the notion of human beings as self-interested is a generally accepted idea. Agency theorists view the firm as a 'nexus of contracts' between shareholders, managers and other stakeholders. Each of the parties may have interests which run at variance and contradicts those of the other parties. In its simplest form, agency theory explains the agency problems arising from the separation of ownership and control. Davis, Schoorman and Donaldson, (1997) explained that it provides a useful way of explaining relationships where the parties' interests are at odds and can be brought more into alignment through proper monitoring and a well-planned compensation system.

Evidence from literature shows that one of the most appropriate theories used to explain the relationship between corporate governance practices and borrowing cost is agency theory. The theory was developed by Jensen and Meckling, (1976) and the theory argued that in firms where debt and equity is widely held, most especially debt, managerial actions tend to deviate from the requirements of shareholders (those in charge of governance), which are to maximize wealth, creating the agency problem. Pornsit, Pandej, Jang-chul and Yixin, (2012) asserted that corporate governance is usually viewed in the context of strengthening shareholder rights and enhancing shareholders' welfare. However, an increased borrowing cost will serve as counter-productive factor to the expectation of the principal. Furthermore, the impact of corporate governance on bondholders is much less discussed and understood. Pornsit, Pandej, Jang-chul and Yixin, (2012) asserted that bondholders are vulnerable to the agency cost of debt. The theory underpinning this study will be agency theory, as it helps to understand the relationships between agents and principals. The agent is supposed to work towards the wealth maximization of those in charge of governance; however, having an increased cost of borrowing will reduce the wealth of the shareholders, hence the need for a sound corporate governance practice.

The transfer of wealth happens in two circumstances. First, management working under strict guidance of the shareholders tend to sub-optimally invest the capital that is raised from debtholders in very risky projects. If the projects succeed, shareholders earn large benefits. If not, debtholders have to largely bear the costs of the failure. This is referred to as the overinvestment problem. Second, shareholders through management decide not to invest in some positive projects if they realize that returns on such projects are all taken by debtholders, in this situation, it is called an underinvestment problem. These sub optimal use of funds provided by lenders by the management and shareholders (in some instances) could increase the cost of debt and also lead to the imposition of restrictive convenants i.e. higher cost of borrowing. Public Limited Companies seeks to address these situations through sound corporate governance policies, through an effective board structure. The characteristic of an effective Board Structure includes an ideal board size, board diversity, meeting of board members of at least once a quarter (frequency), the positions of CEO and Chairman occupied by separate persons and higher proportion of non-executive directors on the board, SEC (2008). This is important to ensure the independence of the board and also make them effective to guarantee the rights and benefits of all stakeholders.

Prior research has however addressed the relationship between corporate governance control mechanisms and the manager-shareholder agency problems, however, little is known about their relation with agency conflicts involving debtholders and how they affects borrowing cost. However, debt financing is culturally more prevalent than equity capital in some continental countries in the satisfaction of corporate needs. These funds provided by debtholders can be diverted from their initial goal by corporate managers acting in their self-interest, or in that of the shareholders, at the expense of debtholders (Jensen & Meckling, 1976).

Eisenhardt (1989) explains that the agency problem arises when the desires or goals of the principal and agent conflict and when it is difficult or expensive for the principal to verify what the agent is actually doing. The problem is that the principal is unable to verify that the agent is behaving appropriately and in his best interest. Shleifer and Vishny (1997) on the other hand explain the agency problem in the context of an entrepreneur, or a manager, who raises funds from investors either to put them to productive use or to cash out his holdings in the firm. They explain that while the financiers need the manager’s specialized human capital to generate returns on their funds, the

manager, since he does not have enough capital of his own to invest or to cash in his holdings, needs the financier's funds. But how can financiers be sure that, once they sink their funds, they get anything back from the manager? Shleifer and Vishny (1997) further explained that the agency problem in this context refers to the difficulties financiers have in assuring that managers do not steal funds and/or waste them on unattractive projects.

2.4 Conclusion

Overall, the review covered corporate governance practice and borrowing cost of companies in emerging markets. This study will be focused on selected entities listed on the Nigerian Exchange Limited. Past studies relating to these main variables have been revealed in the empirical analysis section 2.2 of this document. The review has been done based on prior literature on corporate governance practices in relation to variables such as cost of debt, performance, and cost of capital. Also, borrowing cost has been considered (as dependent or explanatory variable) in relation to variables such as political sentiment, bank lending network, board size, board independence, and board composition among others. The studies reviewed cut across developed and developing countries and different industry, all of these studies made use of *ex-post* facto research design (quantitative study).

Studies on the impact of corporate governance practices and borrowing cost of firms listed on Nigerian Exchange Limited were scarce. Review pointed out that prior literature from Nigeria environment focused on specific industries; brewery and banking. However, the current study will be based on all firms listed on the NGX using 2013 to 2022 dataset that is ten (10) years. Finally, the theory on which this study will be anchored is agency theory. It is used to understand the relationships between agents and principals as it affects the firms cost of borrowing.

Table 2.1: Summary of Empirical Review/Findings

Author/year	**Title**	**Research objective**	**Methodology**	**Key findings**
Ma'aji, Muhammad M., Anderson, Ediri O., and Colon, Christine G.	The Relevance of Good Corporate Governance Practices to Bank Performance	The purpose of this paper was to examine how corporate governance instruments impact firm value in the context of	This study used a balanced sample of foreign and domestic owned banks for the period 2014-2018. Panel data regression	The study found that having a board member with a postgraduate degree or a professional qualification is expected to increase bank

(2021)		Cambodian banks.	is adopted for estimation of main results.	performance. Similarly, having some number of board committees will result in a higher bank performance while a smaller board size is associated with higher bank performance.
Muhammad Ansar Majeed, Chao Yan (2021)	Financial statement comparability, state ownership, and the cost of debt: Evidence from China	This study examines whether financial statement comparability (comparability) reduces credit risk and lowers the cost of debt.	Quantitative research	They found that greater comparability improves credit decisions of the lenders and also benefits borrowers by reducing the financing cost.
Boateng, A, Cai, H, Borgia, D, Bi, X & Ngwu, F (2017)	The influence of internal corporate governance mechanisms on capital structure decisions of Chinese listed firms	This paper examines the effects of internal corporate governance mechanisms on the capital structure decisions of Chinese listed firms	Using a large and more recent dataset consisting of 2386 Chinese listed firms over the period from 1998 to 2012, they employ panel data and use different statistical methods (OLS, fixed effects, and system GMM).	It was found that the proportion of independent directors and ownership concentration exert significant influence on the level of Chinese long-term debt ratios. (i.e. decrease in debt ratios)
Carmen Lorca Juan Pedro Sa´nchez-Ballesta Emma Garcı´a-Meca (2011)	Board Effectiveness and Cost of Debt	To examine if board of directors influence cost of debt financing	The study was a quantitative research, using ex-post facto research design. sample is drawn from the population of Spanish non-financial firms listed on the Spanish Stock Exchange during 2004–2007	The study found that two board attributes which are director ownership and board activity influence more in the risk assessment of debtholders because of their ability to reduce agency cost and information asymmetry. They also found a non-linear relationship between board size and cost of debt.
Muhammad Yar Khan , Anam Javeed , Ly Kim Cuong	Corporate Governance and Cost of Capital: Evidence from	This study used a researcher self-constructed corporate governance index as a	The study obtained data from Karachi Stock Exchange (KSE) for all listed	It was found a negative and significant association between the Pakistani Corporate

and Ha Pham (2020)	Emerging Market	proxy to measure the firm-level corporate governance compliance and disclosure to examine the relationship between corporate governance and cost of capital.	firms from 2003 to 2013 which was used for the regression analysis	Governance Index (PCGI) and block ownership with the firm-level cost of capital. Therefore better-governed Pakistani listed firms tend to be associated with a lower cost of capital than their poorly governed counterparts are. Finally, sound corporate governance practices are mainly related to minimise corporate failure and assist firms in attracting capital at a lower cost.
Owolabi, S. A., & Owolabi, T. J. (2014)	Corporate governance and post consolidated performance of Nigerian banks	Assess the relationship between corporate governance and firm's performance in the Nigerian banking industry	The study was also a quantitative research, using ex-post facto research design. However, financial institutions were sampled and 19 consolidated banks Regression analysis and correlation	The study concludes that the different elements of corporate governance influence different performance indicators in different ways
Ronald C. Andersona, Sattar A. Mansib, and David M. Reeb (2003)	Board Characteristics, Accounting Report Integrity, and the Cost of Debt	The study examined the relation between board structure and the cost of debt financing.	A sample of 252 industrial firms from the Lehman Brothers Fixed Income database and the S&P 500 were used.	They found that board independence is associated with a lower cost of debt financing and also found a negative relation between board size and the cost of debt financing.
L. Paige Fields, Donald R. Fraser, and Avanidhar Subrahmanyam (2012)	Board quality and the cost of debt capital: The case of bank loans	They analyze the relation between comprehensive measures of board quality and the cost as well as the non-price terms of bank loans.	The study adopted ex-post facto research design and multi-variate regression analysis was carried out.	The study found that firms that have higher quality boards with a greater advisory presence borrow at lower interest rates. When the direct and indirect costs of bank

				loans were combined, it was found that firms with large, independent, experienced, and diverse boards and lower institutional ownership borrow more cheaply.
Sharifah Faatihah Syed Fuzi Syahrina 'Adliana Abdul Halim, Julizaerma M.K. (2016)	Board Independence and Firm Performance	Examined the relationships that exist between corporate governance mechanisms measured by board independence and firm performance	Literature review/meta-analysis	Board independence has a significant positive association with performance of firms pursuing a strategy on cost efficiency rather than strategy on innovation
		Examines whether the composition, structure and functions of corporate boards and their interactions are related to the probability of corporate failures	358 UK listed firms consisting of 95 failed firms from 1999 – 2011 Multivariate logistic regression analysis (LOGIT)	This study reveals that the probability of failure is lower in firms with large board size, former government officials, independent remuneration committee chairman and greater proportion of outside directors as well as effective audit and remuneration committees
Sunitha Vijayakumaran, Ratnam Vijayakumaran (2019)	Corporate Governance and Capital Structure Decisions: Evidence from Chinese Listed Companies	The study examines the impact of corporate governance on capital structure decisions	The research was quantitative and system Generalized Method of Moments (GMM) estimator was used to control for unobserved heterogeneity, endogeneity, and persistency in capital structure decisions	Their result show that while foreign ownership negatively influences leverage decisions, board structure variables (board size and the proportion of independent directors) do not influence firms' capital structure decisions.
Hatem Ghouma, Hamdi Ben-nasr, Ruiqian Yan (2017)	Corporate Governance And Cost Of Debt Financing: Empirical Evidence From Canada	To explores the impact of the Globe and Mail corporate governance index on bond spreads in a sample of Canadian listed companies.	Ex-post facto research design was adopted.	They found a significant negative relationship between shareholder rights sub-index and the cost of debt.

Pradeep Dharmadasa, Pemarathne Gamage and Siriyama Kanthi Herath (2021)	Corporate Governance, Board Characteristics and Firm Performance: Evidence from Sri Lanka	This paper examines the association between board characteristics and the firm performance using publicly listed companies in the Colombo Stock Exchange (CSE)	Data for the study were obtained from the published audited annual reports of 189 companies using hierarchical regression.	It was found that larger boards had a negative impact on firm performance. Moreover, a positive association was found between board independence and firm performance. However, neither CEO duality, family directors, interlocking directorate nor board diversity were found to be significant in increasing firm performance.
Hatem Ghouma (2017)	How does managerial opportunism affect the cost of debt financing?	Investigates whether SOX induced changes in the perceptions of some governance actors such as bondholders and credit rating agencies	Quantitative research	It was found that debt markets (via bondholders and rating agencies) effectively act as an "external monitor" of managers. On the other hand, the SOX enactment contributes (at least partially) to the effectiveness of bond markets as monitors.
Pham, P. K., Suchard, J.-A., & Zein, J. (2012)	Corporate Governance and the Cost of Capital: Evidence from Australian Companies	The study set out to examined the relationship that exists between the cost of debt, board independence and board size	Ex-post facto research design was adopted	found that negative relationship exists between the cost of debt, board independence and board size
Muhammad and Chao (2021)	Financial statement comparability, state ownership, and the cost of debt: Evidence from China.	Examines whether financial statement comparability reduces credit risk and lowers the cost of debt.	Quantitative research	They found that higher comparability reduces information asymmetry and makes monitoring of managerial activities easier, which reduces the cost of debt. However, it was found that the effect of comparability on cost of debt for state-owned

				enterprises is statistically insignificant.
Kang and Xu, (2019)	The effect of ownership structure on debtholders' wealth	Examining the effect of ownership structure on debtholders' wealth using executive stock ownership guidelines as a measure of corporate governance	Quantitative research	They opined that, the ownership structure adopted by companies affects wealth of the debtholder. They also affirm that the adoption of ownership guidelines as a measure of corporate governance can improve the agency cost of debt
Andersen, A. L., Lassen, D. D., & Nielsen, L. H. W. (2014)	The impact of late budgets on state government borrowing costs.	To evaluate the impact of late budgets on state government borrowing costs.	Used secondary data from 500 sampled firms, descriptive statistics were used to describe the dataset, and panel analysis was carried out in testing hypotheses.	It was found that that board committees (BDCT) and audit committees (ADC) significantly affect the reliability of financial reports.
Stefany and Joni, (2020)	effect of BDC on the cost of debt	To consider the effect of BDC on the cost of debt and The multiple linear regression and generalized method of moments (GMM)	Using secondary data obtained from 777 sample firm-years of the Indonesia stock exchange (ISE) between 2016 to 2017.	It was found that board size negatively affects the cost of debt while female board and independent board insignificantly affect the cost of debts.
Jantadej and Wattanatorn, (2020)	The Effect of Corporate Governance on the Cost of Debt: Evidence from Thailand	To investigate the impact of corporate governance on cost of debt. The study was analyzed using descriptive statistics and correlation matrix	Secondary data adopted from the Thailand Stock exchange and DataStream, Bloomberg, and the SEC filing database was used from 2007 to 2016.	The study revealed that board effectiveness is significantly related to a higher cost of borrowing. The study also found that board size, board meetings, and the percentage of non-executive and audit committee positively related to cost of debt financing.
Bradley, M., & Chen, D. (2011)	Corporate governance and the cost of debt:	The paper examined the relationship between corporate	Adopted ex-post facto research design and used a sample of	They found that, good governance enables corporate directors to

	Evidence from director limited liability and indemnification provisions	governance and the cost of debt	1500 firms covering the period from 2002 to 2007.	pursue moderately acceptable corporate deals that reduce agency costs of debt and thus benefit investors.
Duru, A., Mansi, S. A., & Reeb, D. M. (2005).	Earnings-based bonus plans and the agency costs of debt.	examined the impact of earnings-based cash bonus compensation on agency conflicts with debt holders	Quantitative research	The study discovered that earnings-based bonus plans significantly decrease the agency cost of debts

2.5 Gaps in Literature

The present study addresses conceptual gap with respect to borrowing cost evidence from developing economy in Africa (Nigeria). Borrowing cost in literature had mostly been the percentage of interest expense to total facility (borrowings) provided to the company (Jantadej & Wattanatorn, 2020; Bradley & Chen, 2011). However, based on the developing economies experience like Nigeria, the monetary policy rate plays a significant role on borrowing cost, therefore the spread above risk free was used. What this implies is that when risk free rate is increasing but the spread is not increasing, it means interest rate environment is getting higher but not that the company's borrowing cost is increasing. The justification is that different debts have different behaviours (term loan or overdraft). Also, in measuring corporate governance, board structure and audit committee structure were used. The study however went further to create a corporate governance rating score (CGRS) to determine the corporate governance compliance/standard of each company for each year which was used in estimating the main model, this represents the main proxy for corporate governance structure. Secondly, studies on corporate governance and capital structure from Nigeria context had always been in relation to equity providers (Owolabi & Dada, 2011; Osundina, Olayinka, & Chukwuma, 2016; Ndum & Oranefo, 2021) i.e. shareholders. Prior evidence on borrowing cost (cost of debt), are however from European and Asian countries especially developed countries (Bradley & Chen, 2015; Jiraporn et al., 2013; Fields et al., 2012; Pham et al., 2012; Lorca et al., 2011; Ashbaugh-Skaife et al., 2006; Klock et al., 2005; Bhojraj & Sengupta, 2003; Han, Kang, & Shin, 2016) hence, this had left a vacuum within the continent of Africa especially Nigeria. Therefore, the justification for the current

research to examine the effect of corporate governance on borrowing cost of companies listed on the Nigerian Exchange Limited.

These identified gaps had in one way or the other created problem that need to be addressed. One of the problems has to do with companies failures in the country as a result of financial leverage and liquidity challenges (Olokoyo, 2013; Kwarbai, Olayinka, Ajibade, Ogundajo & Omeka, 2016; Osundina, Olayinka, & Chukwuma, 2016). Therefore, this study provide empirical evidence on the importance of corporate governance in strengthening the financial indicators since the problem of ineffective/weak corporate governance practice is recognized as part of the reasons for poor firm performance (Black, Jan and Kim, 2002). Furthermore, the focus of this study was to examine the effect of corporate governance on borrowing cost of companies listed on Nigerian Exchange.

CHAPTER THREE

RESEARCH METHOD

3.0 Introduction

This section discusses the method that was used in carrying out the research. It explains among

other things, the research design, population of study, the sampling method and sample size, validity and reliability of research instrument. Also, method of data collection, data analysis techniques, working model and a-priori expectation was all discussed.

The study adopted quantitative research approach, this is because it provides a structured and systematic approach to data collection and analysis, which helps ensure objectivity and reduces the potential for bias (Simon & Abdul-Hamid, 2017). Researcher can use statistical methods to analyze the data, leading to more reliable and valid conclusions. Furthermore, Quantitative studies often involve larger sample sizes, allowing researchers to draw conclusions that can be generalized to a broader population and the size for this research is 1110 firm year observation. This feature enhances the external validity of the study's findings (Filatotchev & Wright, 2017).

Finally, since the current study investigated listed companies over 10 years period, quantitative studies are well suited to making comparisons between groups, conditions, or time periods. By employing statistical tests, researchers can determine if there are significant differences or similarities between various groups or conditions (Kumar & Zattoni, 2015).

3.1 Explaining research model and hypotheses

3.1.1 Research Model

This study adapted two empirical models as suggested by Kulaya and Woraphon (2020), which provided a straightforward method to identify the attributes of a director. This study included firm size measured by the logarithm of total assets, this was added in the model because firms with larger assets are likely to have less risk in the view of debtholders, possibly possessing a low cost of debt. (Arash, Azim & Mohammad, 2014; Afensimi & Izedomni, 2019). The empirical model is shown as;

$BC_{it} = \beta_0 + \beta_1 BI_{it} + \beta_2 BM_{it} + \beta_3 BS_{it} + \beta_4 BD_{it} + \beta_5 FS_{it} + \beta_6 AUR_{it} + \beta_7 OER_{it} + \varepsilon_{it}$ ---------- Model 1

$BC_{it} = \beta_0 + \beta_1 ACI_{it} + \beta_2 ACS_{it} + \beta_3 ACM_{it} + \beta_4 ACE_{it} + \beta_5 FS_{it} + \beta_6 AUR_{it} + \beta_7 OER_{it} + \varepsilon_{it}$ -- Model

2

Where:

BI = Board Independence

BM = Board Meetings

BS = Board size

BD = Board Diversity

ACI = Audit committee Independence

ACS = Audit committee size

ACM = Audit committee meeting

ACE = Audit committee experience

BC = Borrowing Cost

Control variables measured by Agency Cost and Firm size (FS);

Agency cost is measured by;

AUR = Asset Utilization ratio

OER = Operating expense ratio

i represent the sampled companies

t represents the year

β_0 represent the constant factor for the model

β_{1-7} represents the magnitude of the effect of individual proxies of the independent variables and control variables on the dependent variables (coefficients)

ε represent the stochastic errors in each of the models

3.1.2 Model Evaluation and Estimation Techniques

In this study, coefficient (β), T-statistics, F-statistics and Adjusted R-squared were used as criteria for estimation and evaluation of the models.

T-statistics was used to evaluate the significance of the effect of individual measures of corporate governance on borrowing cost of the selected firms. This was determined by the probability values of the T-statistics in assessing whether the independent variables proxies have significant or

insignificant effect.

Coefficient was used to estimate the magnitude of the effect of the individual measures of independent variables as well as the direction of the effects on the dependent variables.

The decision rule is stated as:

For T-distribution for individual variable:

If Prob. ≥ 0.05 accept H_0 and reject H_1

If Prob. ≤ 0.05 reject H_0 and accept H_1

For F-distribution for joint effects of all variables:

If Prob. ≥ 0.05 accept H_0 and reject H_1

If Prob. ≤ 0.05 reject H_0 and accept H_1

3.2 Research Design

This study adopts exploration and *ex-post facto* (quantitative approach, since existing data are to be used) research design, this is because it is suitable for exploring long-term effects or naturally occurring phenomena, giving insights that might not be feasible through experimental manipulation (Filatotchev & Wright, 2017). Another justification for the research design used is that the facts and figures are already contained in annual reports and accounts, and therefore it is historical in nature and it's an empirical study based on archival dataset. This is consistent with the research work of Osundina, Olayinka, & Chukwuma, (2016); and Ndum & Oranefo, (2021). These proposed research designs helps provide mechanism in addressing the main research question of this study which is to investigate to what extent does corporate governance structure impact borrowing costs of exchange listed entities in Nigeria? The specific research questions are; to what extent does board structure impact borrowing costs of exchange listed entities in Nigeria? Also, how does audit committee structure affect borrowing cost of companies listed on the Nigerian Exchange?

Furthermore, *Ex-post facto* design which is otherwise called the causal-effect design is adjudged the most appropriate for this study because it helps investigate possible cause and effect relationship between the proxies of corporate governance and borrowing cost. Due to the nature of

the study and the kind of data to be used, the research design is adjudged to be appropriate which had previously been adopted in prior literature (Xu & Wang, 2018; Mukherjee & Sen, 2019; Xu, Chen, & Zhang, 2020).

The reason this topic is been investigated with specific focus on Nigeria is because businesses on the continent of Africa especially are experiencing financial leverage and liquidity challenges (Kwarbai, Olayinka, Ajibade, Ogundajo & Omeka, 2016; Osundina, Olayinka, & Chukwuma, 2016). The scarcity of this critical resource (finances) also suggests that there would be specific considerations from lenders (other than internal lenders) in determining the allocation of funds provided by the those charge with governance and the cost thereof. Nigeria was therefore considered based on her status in the continent as one of the biggest economies in Africa (World Bank, 2024).

3.3 Population of the Study

The population of this study consists of all firms listed on the Nigerian Exchange (NGX) as at December 31st, 2023. Nigerian exchange is a wholly owned subsidiary of the Nigerian Exchange Group, a leading listing and trading venue in Africa with its history dating back to 1960. It is an open, professional, and vibrant exchange, connecting Nigeria, Africa, and the world. The total number of listed firms was 177 (NGX, 2023). All companies listed were used because studying all firms listed on the Nigerian exchange will offer a comprehensive view of the country's business landscape, market trends, and economic dynamics. This approach minimizes sampling bias and enhances the generalizability of findings. By analyzing a diverse range of firms, the study can identify common patterns, outliers, and sector-specific insights that contribute to a more holistic understanding of Nigeria's economy and its relationship with the global market.

3.4 Sample Size and Sampling Techniques

According to Asika (2015), it is practically impossible to take a complete and comprehensive study of the entire population because of the nature and pattern of distribution or dispersion of the elements of the population. It is the intention of the researcher to adopt the total population (177 companies) as the sample size for this study (total enumeration), this is to ensure the findings of this research will form a logical basis for generalization of opinion and to extend frontiers of

knowledge across different sector of Nigeria economy on the issue of corporate governance and borrowing cost. However, during the field work (at data gathering stage) it became impracticable to use the total population (all listed companies), a purposive sampling, also referred to as a judgmental or expert sampling, a type of non-probability sample was used to determine the appropriate sample size. The main objective of a purposive sampling technique is to produce a sample that can be logically assumed to be representative of the population. Therefore, only listed companies (111 companies) with relevant data on all the variables for this study were purposefully sampled or selected.

3.5 Method of data collection

To answer the research questions regarding the effect of corporate governance structure on borrowing cost of listed companies in Nigeria, the data was collected from secondary sources (archival research (Ndum & Oranefo, 2021)); this is because the study extensively derive secondary data from audited annual reports and accounts of the companies and the Fact Book of the NGX for selected firms which represent the database for this study. These data are deemed verified and certified by SEC and the Nigerian Exchange Limited. In addition, these annual accounts and reports should possess the basic attributes of completeness, objectivity, neutrality and reliability which are essential characteristics of information as required by International Financial Reporting Standard (IFRS). Companies listed on the NGX are required to comply with the IFRS. Information relating to governance structure was extracted from the Chairman and CEO's reports and the Corporate Governance Statements is contained in the Annual Reports and Accounts. Information on corporate governance structure and borrowing cost were obtained from the annual accounts for the relevant years of study.

Hence, the validity and reliability of the proposed research instrument (for quantitative data) is that the research instruments are the statutory audited annual reports of the sampled companies which had been audited by independent external auditors and they are subjected to regulatory checks and approval. This means that the data from such annual reports of the companies are reasonably reliable and valid when compared to other alternative sources of data. Furthermore, the reliability of the data gathered for this study was confirmed based on the descriptive statistics of each variable to check the behaviour of the data in their original form before any model estimation.

3.6 Sample Data

The data collected for this study covers the period from 2013 to 2022, encompassing ten years for 111 companies across all sectors. This is to ensure the the time series is long enough at each firm level to for reasonable empirical evidence on the subject matter. The dataset includes financial information, corporate governance data, and borrowing costs of a sample of listed companies in Nigeria as in the work of Al Muhaissen and Alobidyeen, (2022). The precise size of the dataset was based on the number of companies included and the availability of data for each variable.

3.6.1 Ethical Data Collection

This study considered and adhered to high ethical considerations in the course of the study as stipulated by Asika (2015). In ensuring ethical consideration, the researcher was ethically guided to ensure that the study focused on attaining its objective within the space of ethical guidelines. To ensure the ethical collection of data, the following considerations were taken into account:

a) Informed Consent: Data were obtained from publicly available and legally accessible source, hence, no consent was required.

b) Anonymity and Confidentiality: Personal and sensitive information were handled with utmost care. Identifiable information about specific companies were anonymized or aggregated to prevent the identification of individuals or organizations. Data collected were handled confidentially for the purpose of the study and were not used for any other purpose other than as originally stated. Also, all personal on the subject matter information of the organizations were never divulged and were kept from public access.

c) Compliance with Legal and Ethical Standards: Data collection procedures adhered to relevant legal and ethical guidelines of Geneva Business School.

d) Transparency and Openness: The methodology and data sources were clearly documented to promote transparency, allowing for replication and validation by other researchers.

In summary, the researcher ensured that when and where the views of other authors and contributors have been expressed in this study, they were duly acknowledged. By incorporating these ethical considerations into the data collection process, this study aims to uphold the principles

of integrity, privacy, and respect for the rights of individuals and organizations involved in the research.

3.7 Method of data Analysis

The study employed both descriptive and inferential analytical techniques in testing the hypotheses that were formulated for this study. Under the descriptive analysis; the study examined the characteristics of the variables under study using common descriptive statistics as mean, minimum, maximum, standard deviation. Correlation analysis was carried out to examine the nature of association among the series (variables) and also to test the existence of multicollinearity problem in the series (Conyon & He, 2011). Variance inflation factor analysis was also done as confirmation test for the multicollinearity test conducted (Osundina, Olayinka, & Chukwuma, 2016). The descriptive statistics, correlation and variance inflation factor analysis constituted the pre-estimation analysis to evaluate the characteristics and the appropriateness of the data used.

In testing the hypotheses, the study used multiple regression models since all the models to be developed will be multiple linear regression equation. Kumar and Zattoni, (2015) affirmed that regression analysis is considered suitable because it assists to establish objective measures of causal effects between the independent and the dependent variables, rather than using personal judgement, it is fairly simple, and the best linear unbiased estimator among all unbiased estimators, it is efficient and shown to have the smallest (minimum) variance as well as minimizes squares of the residuals. It is also a predictive model which fits the aim of this study, by using the firms' past records on corporate governance and borrowing cost to determine the existing causal-effects and future projection using the regression models to be developed for the study. The behaviour of the data during analyses determined further actions that were taken.

The said action was to estimate a dynamic panel data model using the two-step System Generalized Method of Moments (SGMM). This method is particularly suitable for addressing potential endogeneity issues and controlling for unobserved heterogeneity in panel data. The justification for GMM estimation aligns with the procedure outlined in section 4.3.

Use of Forward Orthogonal Deviations Transformation

The forward orthogonal deviations method was chosen instead of first-differencing. This method transforms the data to eliminate fixed effects by subtracting the average of future observations from

each data point. It has the following advantages:

- Reduces Data Loss: Unlike differencing, forward orthogonal deviations maintain more observations for unbalanced panels.
- Handles Serial Correlation: By construction, the transformed residuals are less likely to be serially correlated, enhancing the precision of the GMM estimation.

This is particularly relevant for dynamic panel data models like this one, where maintaining efficiency is crucial. Furthermore, the choice of collapsed instruments (e.g., gmm(L.bc, collapse)) helps to reduce the instrument count, addressing the problem of overfitting and weak Hansen test performance when the number of instruments becomes too large relative to observations.

Robust Standard Errors

The estimation uses two-step GMM with robust standard errors, it accounts for heteroskedasticity and autocorrelation within panels, making the results more reliable. The "small" option used in the model corrects the standard errors for the finite sample bias of the two-step covariance matrix.

Tests for Model Validity

Several diagnostic tests were performed to ensure the validity of the model, Arellano-Bond Test for Serial Correlation which tests for first-order (AR(1)) and second-order (AR(2)) serial correlation in the first-differenced residuals. However, the absence of AR(2) confirms the validity of instruments. Hansen Test for Overidentifying Restrictions was also verified to checks the validity of instruments by testing whether they are uncorrelated with the error term. Finally Difference-in-Hansen Test used to test subsets of instruments (e.g., GMM instruments for levels vs. external instruments for levels).

Summary of Specification Choices:

- Model Transformation: Forward orthogonal deviations to eliminate fixed effects and preserve data.
- System GMM: Address endogeneity using lagged instruments and levels equations.
- Robust Errors: Correct for heteroskedasticity and small-sample bias.
- Instrument Collapse: Prevent overfitting and instrument proliferation.
- Endogeneity Treatment: Careful categorization of variables as endogenous, predetermined,

or exogenous to ensure consistent estimation.

These choices align with best practices for dynamic panel data models and are validated by diagnostic tests to ensure robustness and reliability of the results.

3.8 Measurement and explanation of identified variables.

Table 3.1: Summary of Measurement and Explanation of Identified Variables

Variables	Abbr.	Measurement/Definitions	Literature
Borrowing Cost	BC	Spread above risk free rate i.e. the difference between actual borrowing cost and the risk free rate.	Kulaya and Woraphon (2020) Adapted.
Corporate Governance			
Board Structure			
Board Independence	BI	Percentage of independent directors on the board to total members.	Faisal and Abdul (2015)
Board Meetings	BM	Number of board meetings held during the year.	Chou, Chung and Yin, (2013)
Board Size	BS	Total number of board members.	Kulaya and Woraphon, (2020)
Board Diversity	BD	Number of women on the board to total members.	Muhaissen and Alobidyeen, (2022); Osundina, Olayinka and Chukwuma, (2016).
Audit Committee Structure			
Audit Committee Independence	ACI	Percentage of independent/non-executive director on audit committee.	Naciti, Cesaroni and Pulejo, (2021); Osundina, Olayinka and Chukwuma, (2016).
Audit Committee Meeting	ACM	Number of Audit Committee Meetings.	Chou, Chung and Yin, (2013)
Audit Committee Size	ACS	Number of audit committee members.	Muhaissen, and Alobidyeen, (2022)
Audit Committee Experience	ACE	Proportion of financial literate directors on audit committee i.e.	Fields, Fraser and Subrahmanyam, (2012)

		professional accountants.	
Control Variables			
Firm Size	FS	Log value of total asset	Afensimi and Izedomni (2019)
Agency Cost			
Asset Utilization Ratio	AUR	Ratio of total revenue earned to total assets.	Jiraporn, Chintrakarn, Kim and Liu, (2013)
Operating Expense Ratio	OER	Ratio of operating expenses to total revenue.	Jiraporn, Chintrakarn, Kim and Liu, (2013)

Researcher's Compilation (2024)

Control Variables Identification.

In the Nigerian context, large firms are more likely to attract attention from regulators and stakeholders, encouraging better corporate governance practices (Afensimi & Izedomni, 2019). Including firm size as a control variable helps ensure that the relationship between corporate governance and borrowing cost is not conflated with the advantages associated with firm size. Furthermore, in Nigeria, where operational inefficiencies can be significant due to infrastructure and market challenges, asset utilization highlights the firm's capability to overcome these issues Ndum & Oranefo, 2021). Better governance often correlates with higher efficiency, but including this variable avoids over-attributing cost reductions to governance alone. Finally, evidence from Nigeria, where inflation and unstable economic conditions can significantly impact operating costs (Okpara, 2011), controlling for OER is crucial. It ensures the relationship between corporate governance and borrowing costs isn't distorted by macroeconomic or firm-level cost fluctuations.

By including firm size, asset utilization ratio, and operating expense ratio as control variables, the study can:

- ✓ Account for Confounding Factors: These variables influence borrowing costs independently of corporate governance, and controlling for them ensures a more accurate estimation of governance's effect.
- ✓ Enhance Robustness: Their inclusion strengthens the study's validity by demonstrating that observed effects are not spurious or due to omitted variable bias.

- ✓ Reflect Local Context: In the Nigerian environment, where firm-specific and macroeconomic factors heavily influence financing conditions, these controls help contextualize findings for more meaningful insights.

3.9 *A-Priori* Expectation

This refers to the relationship that the researcher expects to exist between the variables of interest i.e. default expectation. The study expects that there should be a negative relationship between corporate governance structure and borrowing cost (the independent variables and the dependent variables). Hence all the coefficients are expected to be less than 0 ($\beta < 0$). This is because as corporate governance structure is improved or adherence to code of corporate governance, cost of borrowing is expected to reduce.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION OF FINDINGS

In this chapter, the distribution characteristics of the series and the underlying models are thoroughly analysed using descriptive statistics. The relationships among the explanatory variables are systematically examined using a correlation matrix. The outcomes of the regression analyses, conducted with the aid of Stata 13.0, are presented in detail, highlighting both the magnitude and significance of the explanatory variables' influence on the dependent variables in each of the two specified models.

Comprehensive interpretations are provided, forming the basis for decisions on whether to reject or accept each of the two hypotheses, as well as the study's primary objective. This chapter also covers the discussion of the findings in line with the results of earlier scholars and shows the implications of the findings to various stakeholders involved.

4.1 Descriptive Analysis

The characteristics of the series in the distribution are verified using descriptive statistics, which include the mean, standard deviation, minimum and maximum values as shown in Table 4.1.

Table 4.1: Descriptive Statistics

	MEAN	STD. DEV	MIN	MAX
Borrowing Cost (BC)	-1.98	20.73	-12.51	0.140
Board Independence (BI)	12.09	14.06	0	83.33
Board Meeting (BM)	5.05	1.84	1	16
Board Size (BS)	8.94	2.68	3	19
Board Diversity (BD)	16.94	14.22	0	80
Audit Committee Independence (ACI)	48.11	4.93	33.33	66.67
Audit Committee Size (ACS)	5.41	0.86	2	8
Audit Committee Meeting (ACM)	3.89	1.18	0	11
Audit Committee Experience (ACE)	13.45	12.75	0	50
Firm Size (FS)	16.99	2.26	10.96	23.32
Asset Utilization Ratio (AUR)	0.59	0.64	0	5.61
Operating Expense Ratio (OER)	0.64	3.08	-2.71	78.06

The descriptive statistics as presented in Table 4.1 show the mean, standard deviation, minimum and maximum values of all the variables considered in this study. The statistics show the behavior of the data in their natural form.

Board Independence

Board Independence (BI), with a mean score of 12.09%, suggests that, on average, only few of board members are independent, which might impact the level of oversight and the company's risk profile. This needs to be addressed by all listed companies in Nigeria, as lower board independence could lead to higher borrowing costs due to perceived governance risks. However, the standard deviation of 14.06% shows high variability in board independence across listed companies in Nigeria, indicating different governance practices, which could have varying impacts on borrowing costs across the sampled companies investigated.

Board Meeting

The mean score for Board Meeting (BM) is 5.05 indicating that, on average, the boards of companies listed in Nigeria meet five times a year. This suggests a moderate level of board activity across all listed companies in Nigeria. Such activity is expected to have a positive effect on borrowing costs, as active boards may help manage risks and thus reduce borrowing costs. However, the standard deviation of 1.84 indicates that some companies hold board meetings more frequently than others, reflecting differences in governance quality, which could potentially impact borrowing costs.

Board Size

Board Size (BZ), with a mean score of 8.94, indicates that the average board size of listed companies in Nigeria is approximately nine members, which aligns well with corporate governance standards. Notwithstanding, larger boards with quality members could contribute to better oversight potentially lowering borrowing costs. The standard deviation of 2.68 suggests a moderate variation in board size of all listed companies in Nigeria, indicating different governance structures across the companies analysed.

Board Diversity

Furthermore, the mean score for Board Diversity (BD) of 16.94% indicates that on average, 16.94% of board members are women. This diversity could improve risk management and decision-making, potentially lowering borrowing costs. The standard deviation of 14.22% shows that

different standards are applied with respect to board diversity. This implies that board diversity may have differing effects on borrowing costs across all listed companies.

Audit Committee Independence

Audit Committee Independence (ACI) has a mean score of 48.11%, indicating that, on average, nearly half of the audit committee members of all listed companies in Nigeria are independent. This enhances the quality of financial reporting and internal controls, which could lead to lower borrowing costs, as independent oversight reduces financial risk. The reason for this could be the provision of the Companies and Allied Matters Act which stipulates that shareholders and the Board of Directors must have equal number of representatives on the audit committee. A low standard deviation value of 4.93% indicates all the sampled companies applies similar standard on audit committee independence, this suggest that all the companies will likely experience same relationship between corporate governance and borrowing cost.

Audit Committee Size

Audit Committee Size (ACS) has a mean score of 5.41, indicating that the average number of audit committee members of listed companies in Nigeria is around 5. It is assumed that a larger committee size may improve governance, potentially lowering borrowing costs. However, the standard deviation of 0.86 shows little variation in audit committee size across all listed companies in Nigeria. This suggests that most companies have similarly structured audit committees size.

Audit Committee Meetings

Audit Committee Meetings (ACM), on the other hand has a mean score of 3.89, implying that, on average, audit committees meet about four times a year. This aligns well with the corporate governance standard on audit committee meeting which are expected to occur quarterly. Regular oversight through frequent meetings can enhance governance and reduce borrowing costs. The standard deviation of 1.18 indicates moderate variability in meeting frequency across sampled companies which may reflect different levels of financial scrutiny.

Audit Committee Experience/expertize

The mean score for Audit Committee Experience/expertize (ACE) of 13.45% shows that, on average, not less than 13% of audit committee members are finance professionals with experience, which is critical for effective financial oversight. More expert/experienced committee members are likely to reduce borrowing costs by improving financial transparency. The standard deviation of 12.75% indicates significant variation among audit committee members expertise and experience across listed companies in Nigeria. This suggests that while some companies have highly experienced audit committees, others may not, potentially leading to differing impacts on borrowing costs.

4.2 Test of Multicollinearity (Correlation Analysis and Variance Inflation Factor)

Table 4.2 shows the nature of association among the series in the distribution using Person Correlation Coefficients. Also, the non-existence of multicollinearity problem among the variables was verified using Variance Inflation Factor (VIF).

Table 4.2: Correlation Analysis

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Correlation Analysis (control variables)

Variables	BI	BM	BS	BD	ACI	ACS	ACM	ACE	FS	AUR
FS	0.345	0.328	0.592	0.157	-0.695	0.346	0.258	0.166	1.00	
AUR	-0.015	-0.012	-0.076	0.053	0.027	-0.046	0.013	-0.093	-0.09	1.00
OER	-0.021	-0.034	-0.092	-0.040	-0.095	-0.123	-0.05	-0.28	-0.07	-0.11

The result of the correlation analysis (Table 4.2), with coefficients below 0.5, indicate weak correlation among the variables in the distribution. The results show a least value of -0.015 and the highest value of 0.351 in absolute values, which are less than the benchmark of 0.8 (Baltagi, 2021), hence the justification to conclude that there exist weak correlation.

Board independence has a weak positive correlation with Board Meetings (0.136) and Board Size (0.238), and a weak negative correlation with Audit Committee Independence (-0.155). Weak correlation means that those variables are not related in any way, and one variable does not affect or determine the changes in another variable. This suggests that the board's independence is somewhat related to the size and frequency of board meetings but has an inverse relationship with audit committee independence.

Board meeting (BM) has a weak but positive correlation with Board Size (0.216) and Audit Committee Meetings (0.346). This means that the more often the board meets, the larger the board and the more frequently the audit committee meet, hence the reason for the moderate correlation.

Board size (BS) has weak positive correlations with Audit Committee Size (0.351) and Audit Committee Meetings (0.217), suggesting larger boards may have larger audit committees and slightly more frequent audit meetings.

Board diversity (BD) also has weak correlations with all other variables, indicating little or no relationships exist between board diversity and the other governance structure variables.

On the other hand, audit committee independence (ACI) has a very negative weak correlation with Board Independence (-0.155) and Board Diversity (-0.135), suggesting that more independent boards and diverse boards are slightly less likely to have independent audit committees.

Furthermore, audit committee size (ACS) has a moderately low correlation with Board Size (0.351), suggesting that larger boards tend to have larger audit committees. Audit committee meetings also has weak positive correlations with Board Meetings (0.346) and Audit Committee Size (0.234), suggesting that more frequent board meetings and larger audit committees are associated with more audit meetings. Finally, audit committee experience/expertize has weak correlations with all other variables, indicating that the experience or expertize of the audit committee members is largely independent of other board and audit committee characteristics.

Also, the results of the Variance inflation factor support the results derived from the correlation matrix, as VIF scores are relatively lower than the threshold of 5 or 10 (James, Witten, Hastie, & Tibshirani, 2017).

The weak correlations among variables in this analysis are favourable for the model because they indicate low multicollinearity. Multicollinearity occurs when independent variables are highly correlated, which can distort the results of regression analyses, making it difficult to distinguish the individual effects of each variable on the dependent variable (in this case, borrowing costs). Therefore, if multicollinearity was present among most of the variables, the implication is that it could result to unreliable coefficients i.e. making it difficult to assess the true relationship between each independent variable and the dependent variable. It could also result to misleading significance level i.e. making to some variables appearing statistically significant, even though they might have no effect on the dependent variable.

Thus, the weak correlations observed in the correlation analysis shows that the model is free from multicollinearity issues, providing a more robust and reliable estimation of the effects of board structure and audit committee structures on borrowing costs. Furthermore, low multicollinearity helps produce more accurate and reliable coefficient estimates, as each variable's effect on borrowing cost can be isolated and measured independently. It also becomes easier to identify which corporate governance factors truly affect borrowing cost. This also means that small changes

in the data or the addition of new observations are less likely to cause large swings in the estimated effects. This stability is critical for generalizing the findings of this study to other firms or contexts. Therefore, it reduces the risk of misleading conclusions.

4.3 Interpretation of Hypotheses Test

In this section, the research objectives were analyzed one after the other in line with their hypotheses statement as stated in the introductory chapter of this study. This is to help achieve the research objectives and answer the individual research question earlier stated in the previous chapters. These hypotheses were tested to decide on whether to reject or not to reject the null hypotheses statement for each of the research objectives.

In testing the hypotheses, the nature of the data to be analysed was considered, which was a panel data of 1110 firm year observations (10 years and 111 companies) and there is high persistence in the data. The nature of the data suggests the likelihood of endogeneity issues, the test for endogeneity shows a p-value of 0.00 (Appendix A) which shows the presence of endogeneity in the model. Therefore, the Generalized Method of Moments (GMM) was considered as the estimation technique. GMM is a powerful technique often used in addressing endogeneity issues, particularly in models with potentially endogenous regressors. Endogeneity is a situation in data analyses that occurs when an explanatory variable is correlated with the error term, leading to biased and inconsistent parameter estimates (analyses). Error term is the difference between the observed values and the values predicted by a model. It represents the effects of factors not included in the model or random variations that cannot be explained by the independent variables. The endogeneity of board structure and audit committee structure to firms' cost of borrowing is expected to arise because the two independent variables are influenced by internal and external factors (financial distress and volatility etc.) that also affect the cost of borrowing.

However, when testing hypotheses in the context of Generalized Method of Moments (GMM) estimations, the choice is often between Difference GMM and System GMM depending on the characteristics of the data and the nature of the model to be estimated.

The decision on which of the two GMM to estimate was based on the procedure as opined by Bond (2001). According to this procedure, the first step involves running pooled Ordinary Least

Squares (OLS) and fixed effects analysis. The procedure further states that the pooled OLS estimate for the parameter of the lagged dependent variable should be considered as an upper-bound estimate, while the corresponding fixed effect estimate should be viewed as a lower-bound estimate. The final stage of the decision making process is to determine whether the Difference GMM estimate obtained is close to or below the fixed effect estimate, which suggests that the System GMM estimator is preferred. Since the Difference GMM estimate was lower than the fixed effects estimate (as shown in Table 4.3), System Generalized Method of Moments (SGMM) was used as the estimation technique to analyse the data for all models in this study.

The choice of SGMM is justified by its ability to address several econometric challenges common in panel data analysis, such as endogeneity, unobserved heterogeneity, and measurement errors. Unlike traditional estimation methods, SGMM allows for dynamic relationships by including lagged dependent variables, making it particularly useful for situations where past performance influences current outcomes. Additionally, SGMM effectively handles situations with a larger number of instruments relative to sample size, ensuring more reliable and efficient estimations. Given these advantages, SGMM provides the most appropriate framework for accurately capturing the relationships in this study.

Table 4.3: System GMM Decision Table

4.3.1: Test of Hypotheses One

Research Objective One: Investigate the impact of board structure on borrowing cost of companies listed on the Nigeria Exchange.

Research Question One: To what extent will board structure impact on the borrowing cost of companies listed on the Nigeria Exchange?

Research Hypotheses ($H_0$1): Board structure does not have a significant effect on the borrowing cost of companies listed on the Nigerian Exchange.

Null Hypothesis (H_0) Statement: The null hypothesis (H_0) is that there is no effect or relationship between the independent variable (board structure) and the dependent variable (borrowing cost) in this study.

Testing $H_0$1:

To test this hypothesis, statistical analysis (using SGMM as previously stated) was performed on data collected from companies listed on the Nigerian Exchange. The analysis aims to determine whether variations in board structure significantly affect borrowing costs, with the following possible outcomes:

Rejecting $H_0$1

If the analysis shows a significant effect of board structure on borrowing costs, the null hypothesis would be rejected, supporting the alternative hypothesis that board structure does have a significant effect. This outcome would align with the *a-priori* (default) expectation for this study.

Do not Reject $H_0$1

If the analysis does not show a significant effect, the study will fail to reject the null hypothesis, suggesting that board structure does not have a significant effect on borrowing costs. This outcome would not align with the *a-priori* (default) expectation for this study.

4.3.1.1 Estimation Method: Dynamic Panel-Data Estimation, Two-Step System GMM

In this context, a dynamic panel data model is estimated using the two-step System Generalized Method of Moments (SGMM). This method is particularly suitable for addressing potential endogeneity issues and controlling for unobserved heterogeneity in panel data. The justification for GMM estimation aligns with the procedure outlined in section 4.3.

Model Specification

The dynamic nature of the model suggests that past values of the dependent variable (borrowing cost) may influence current values. Therefore, lagged dependent variables may be included as additional explanatory variables.

The extended model is therefore stated as:

$$BC_{it} = \beta_0 + \beta_1 BC_{it-1} + \beta_2 BI_{it} + \beta_3 BM_{it} + \beta_4 BS_{it} + \beta_5 BD_{it} + \beta_6 FS_{it} + \beta_7 AUR_{it} + \beta_8 OER_{it} + \varepsilon_{it}$$

The analysis was therefore done as shown in the original output from STATA 13 (software) as shown in the Appendix. However, the useful parameters for interpretations were extracted as shown on Table 4.4.

Table 4.4: Results of Analyses for Model One

Model: $BC_{it} = \beta_0 + \beta_1 BI_{it} + \beta_2 BM_{it} + \beta_3 BS_{it} + \beta_4 BD_{it} + \beta_5 FS_{it} + \beta_6 AUR_{it} + \beta_7 OER_{it} + \varepsilon_{it}$ (3)

Restated as:

$BC_{it} = 1.609 + 0.741 BC_{it-1} - 0.033 BI_{it} - 0.116 BM_{it} + 0.001 BS_{it} - 0.006 BD_{it} - 0.193 FS_{it} + 1.45 AUR_{it} + 0.015 OER_{it}$

Interpretation of Post-estimation Results

While examining the effect of board structure on borrowing cost in Nigeria, the diagnostic tests of the 2-steps robust SGMM dynamic panel data estimation employed for the analysis confirmed that the model lacks both first order serial correlation and second order serial correlation judging with the probabilities of the Arellano-Bond tests (Table 4.4) for AR(1) and AR(2) of (0.26) and (0.30) respectively which are greater than the chosen significance level of 5 percent (0.05).

Furthermore, another post estimation test carried out to ascertain the validity of the SGMM model instruments was Hensen test. Its probability value of (0.31) which is greater than the chosen significance level of 0.5 testifies to the validity of the model instrument. Therefore, based on the null hypothesis of Hansen tests, which states that overidentifying restrictions are valid, the study therefore do not rejected the null, meaning that all instruments are valid and exhaustive for the estimation.

Interpretation of Estimation Result

Table 4.4 shows the SGMM result for the effect of board structure on borrowing cost of companies listed on the Nigerian Exchange. The result as shown in Table 4.4 shows that, without controlling for firm size and agency cost, only lag of borrowing cost (L.BC: $\beta = 0.749$; p-value = 0.00) and board independence (BI: $\beta = 0.007$; p-value = 0.06) have significant effect on the dependent variable. Both explanatory variables have positive effect on borrowing cost as shown by the signs of their coefficients which are 0.749 and 0.007 for L.BC and BI respectively.

However, after controlling theindependent variables for firm size (FS) and agency cost measured by asset utilization ratio and operating expense ratio (AUR and OER), some of the independent variables were in-line with *a-priori* (default) expectation that board structure will likely have a negative effect on borrowing cost. Which means that an improvement to board structure is expected to reduce the company's cost of borrowing.

The result shows that borrowing cost of last year (L.BC: $\beta = 0.741$; p-value = 0.00) had positive effect on borrowing cost, this effects is statistically significant because the probability value is less

than 0.05 chosen level of significance for this study. This implies that, a unit change in the borrowing cost of last year (L.BC) will increase the current year borrowing cost (BC) by 0.74%. This is logical and in line with real world reality as no provider of capital will charge interest lower than what was charged in the immediate past year.

On the other hand, board independence (BI: β = -0.033; p-value = 0.00) had negative effect on borrowing cost, this effect is statistically significant because the probability value is less than 0.05 chosen level of significance for this study. This implies that a percentage change in board independence (BI) will lead to 0.033% decrease in borrowing cost (BC), all things been equal. The real world impact of this is that when board members are independent of their decision, this will strengthen their oversight which will influence the bondholder to reduce cost of borrowing because of perceived low risk.

Also, the result shows that board meetings (BM: β = -0.116; p-value = 0.00) had negative effect on borrowing cost, this effect is statistically significant because the probability value is less than 0.05 chosen level of significance for this study. This implies that, an increase in the number of board meetings (BM) will lead to 11.6% decrease in borrowing cost (BC) of listed companies in Nigeria in the short-run, at 5% significance level, all things been equal. This is expected because in reality an active board is likely to meet more often and such meetings may result in timely strategies that can help in managing company risk and thus reduce borrowing costs.

Furthermore, the result shows that firm size and agency cost independently have a significant effect on borrowing cost. This is because their probability values are less than 5% chosen level of significance for this study. Also, both board size and board diversity had no significant effect on borrowing cost based on their p-values of 0.98 and 0.33 respectively been more than the 5% threshold chosen for this study, therefore there results were not considered for interpretation.

Finally, the probability value of the F-statistic of the models stood at 0.00 being less than the 5% chosen significant level for this study. Therefore, this study rejects the null hypothesis one which states that “board structure does not have significant effect on borrowing cost of companies listed on the Nigerian Exchange”. The study can therefore conclude that board structure influences borrowing cost of listed companies in Nigeria. This answers the first research question which says to what extent does board structure affect borrowing cost? and achieves the first objective of this

study, which was to examine the effect of board structure on borrowing cost.

Summary of Findings and Implication

The test hypothesis one results revealed that board structure significantly influences the borrowing cost of companies listed on the Nigeria Exchange. However, board size and board diversity independently were found not to have significant effect on borrowing cost after controlling for agency cost and firm size. Board structure measures (board independence, board meetings, board size and board diversity) have a negative and significant relationship with borrowing costs, which implies that sound corporate governance practices among listed companies in Nigeria have contributed to reducing their cost of borrowing. This relationship suggests that companies are doing well due to the adoption and focus on implementing corporate governance practices, including the appropriate board size, board diversity, board independence and frequency of board meetings.

4.3.2 Test of Hypotheses Two

Research Objective Two: Examine the impact of audit committee structure on the borrowing costs of companies listed on the Nigeria Exchange.

Research Question Two: How does audit committee structure affect the borrowing costs of companies listed on the Nigeria Exchange?

Research Hypothesis Two ($H_0$2): Audit committee structure does not have significant effect on borrowing costs of companies listed on the Nigerian Exchange

Alternative Hypothesis (H_1): Audit committee structure has a significant effect on the borrowing cost of companies listed on the Nigerian Exchange.

Table 4.5: Results of Analyses for Model Two

Model Two:

The model used to test the hypothesis is expressed as:

$$BC_{it} = \beta_0 + \beta_1 ACI_{it} + \beta_2 ACS_{it} + \beta_3 ACM_{it} + \beta_4 ACE_{it} + \beta_5 FS_{it} + \beta_6 AUR_{it} + \beta_7 OER_{it} + \varepsilon_{it}$$

Interpretation

To test Hypothesis Two, regression analysis will be conducted using the above model. The results will indicate whether audit committee structure (measured through variables like independence, size, meeting frequency, and expertise) has a statistically significant effect on the borrowing cost of companies.

If the p-values for the coefficients β_{1-7} is less than the chosen significance level (e.g., 0.05), then the study rejected the null hypothesis (H_0) and conclude that the audit committee structure has a significant effect on borrowing cost.

If the p-values are greater than the significance level, the study will fail to reject the null hypothesis and conclude that the audit committee structure does not significantly affect borrowing cost.

Estimation Method: Dynamic Panel-Data Estimation, Two-Step System GMM

In this context, a dynamic panel data model is estimated using the two-step System Generalized Method of Moments (SGMM). This method is particularly suitable for addressing potential endogeneity issues and controlling for unobserved heterogeneity in panel data. The justification for the GMM estimation is in-line with the procedure stated in section 4.3.

Model Specification

The dynamic nature of the model implies that past values of the dependent variable (borrowing cost) may influence current values. Hence, lagged dependent variables might be included as additional explanatory variables.

The extended model is stated as:

$$BC_{it} = \beta_0 + \beta_1 BC_{it-1} + \beta_2 ACI_{it} + \beta_3 ACS_{it} + \beta_4 ACM_{it} + \beta_5 ACE_{it} + \beta_6 FS_{it} + \beta_7 AUR_{it} + \beta_8 OER_{it} + \varepsilon_{it} \quad (6)$$

Restated as:

$$BC_{it} = 0.641 + 0.749 BC_{it-1} + 0.089 ACI_{it} - 1.378 ACS_{it} - 0.094 ACM_{it} - 0.016 ACE_{it} + 0.140 FS_{it} + 2.02 AUR_{it} - 0.002 OER_{it} \quad (7)$$

Interpretation of Post-estimation Results

While examining the effect of audit committee structure on borrowing cost in Nigeria, the diagnostic tests of the twosteps robust SGMM dynamic panel data estimation employed for the analysis confirmed that the model lacks both first order serial correlation and second order serial correlation judging with the probabilities (Table 4.5) of the Arellano-Bond tests for AR(1) and AR(2) of (0.26) and (0.30) respectively which are greater than the chosen significance level of 0.05.

The second post estimation test carried out to ascertain the validity of the SGMM model instruments was Hensen test. Its probability value of (0.29) which is greater than the chosen significance level of 0.5 testifies to the validity of the model instrument. Therefore, based on the null hypothesis of Hansen tests, which states that overidentifying restrictions are valid, the study therefore do not reject the null, meaning that all instruments are valid and exhaustive for the estimation.

Interpretation of Estimation Result

Table 4.5 shows the SGMM result for the effect of audit committee structure on borrowing cost of companies listed on the Nigerian Exchange. The result in Table 4.5 shows that without controlling for firm size and agency cost, audit committee experience (ACE) was not statistically significant because its p-value was above 5% chosen level of significance for this study. However, lag of borrowing cost (L.BC: $\beta = 0.753$; p-value = 0.00), have significant positive effect on the dependent variable (borrowing cost). While, audit committee independence (ACI: $\beta = -0.088$; p-value = 0.00), audit committee size (ACS: $\beta = -1.55$; p-value = 0.00) and audit committee meeting (ACM: $\beta = -0.122$; p-value = 0.01) all have significant negative effect on the dependent variable (borrowing cost) but not statistically significant as shown in the signs of their individual coefficients and probability values.

However, after introducing firm size (FS) and agency cost measured by asset utilization ratio and operating expense ratio (AUR and OER) as control variables, all the independent variables were in-line with *a-priori* (default) expectation that when audit committee structure is good in line with the standard it should reduce the cost of borrowing of listed companies in Nigeria.

The result shows that borrowing cost of last year (L.BC: $\beta = 0.749$; p-value = 0.00) had a significant positive effect on the current year borrowing cost. This implies that, a percentage change in the borrowing cost of last year (L.BC) will increase the current year borrowing cost (BC) by

0.749% in the short-run, at 5% significance level, all things been equal. This is the same logic as explained under hypothesis one as no provider of capital will charge interest lower than what was charged in the immediate past year.

Also, audit committee independence (ACI: β = -0.089; p-value = 0.00) had a significant (because the p-values is less than 0.05) positive (as shown by the sign of the coefficient) effect on borrowing cost. This implies that, a percentage change/increase in the proportion of independent/non-executive director on audit committee will reduce borrowing cost (BC) by 0.089% all things been equal. This result is not in line with a-priori expectation, the norm is that because when audit committee members are independent, in practice, it enhances the quality of financial reporting and internal controls of these companies. This could lead to lower borrowing costs as independent oversight reduces financial risk.

In the same way, audit committee size (ACS: β = -1.37; p-value = 0.00) had a significant (because the p-values is less than 0.05) negative (as shown by the sign of the coefficient) effect on borrowing cost. This means that, an increase in audit committee size will reduce borrowing cost (BC) by 1.38% all things been equal. This is in-line with the assumption and result from the descriptive statistics that a larger committee size may improve governance and on the long-run reducing borrowing costs

Furthermore, Also, audit committee expert/experience (ACE: β = -0.016; p-value = 0.05) had a significant (because the p-values is not more than 0.05) negative (as shown by the sign of the coefficient) effect on borrowing cost. This implies that, a percentage change/increase in the proportion of financial literate directors on audit committee i.e. professional accountants will reduce borrowing cost (BC) by 0.016%. Realistically speaking, when audit committee members are finance professionals with experience, which is critical for effective financial oversight, their expertise and wealth of experience is likely to reduce borrowing costs since there will be financial transparency.

Furthermore, the result shows that firm size and agency cost independently have a significant effect on borrowing cost because their significant value is less than 5% chosen level of significance. Also, only audit committee meeting had no significant effect on borrowing cost based on their p-values (0.36) been more than the 5% threshold chosen for this study, therefore the result was ignored.

Finally, the probability value of the F-statistic of the models stood at 0.00 being less than the 5% chosen significance level for this study. Therefore, this study rejects the null hypothesis two which states that "audit committee structure does not have significant effect on borrowing cost of companies listed on the Nigerian Exchange". The study therefore concludes that audit committee structure influences borrowing cost of listed companies in Nigeria which is the second objective of this study.

Summary of Findings and Implication

There is a significant relationship between audit committee structure and the borrowing costs of companies listed on the Nigerian Exchange. The negative and significant relationship between audit committee structure and borrowing costs indicates an inverse relationship between the two variables. This suggests that the independence of audit committee members, presence of financial literate members, an appropriately sized committee composed primarily of non-executive members or independent directors, and regular committee meetings will lead to lower or better borrowing costs for all listed companies.

4.3.3: Analyses of Main Hypotheses

Main Objective: to examine the effect of corporate governance on borrowing cost of listed companies in Nigeria.

Null Hypothesis (H_0): Corporate governance does not have a significant effect on the borrowing cost of companies listed on the Nigerian Exchange.

Alternative Hypothesis (H_1): Corporate governance has a significant effect on the borrowing cost of companies listed on the Nigerian Exchange.

Main Model:

The model used to test the main hypothesis is expressed as:

$$BC_{it} = \beta_0 + \beta_1 CGRS_{it} + \varepsilon_{it}$$

Where:

- **BC_{it}**: Borrowing Cost of the company i at time t.
- **$CGRS_{it}$**: Corporate governance rating score (main proxy for corporate governance structure i.e measuring both board structure and audit committee structure together) of the company i at time t.
- β_0: represent the constant factor for the model
- β_1: Coefficients representing the effect of each independent variable on the borrowing cost.
- ε: Error term capturing other factors not included in the model.

Interpretation:

To test the main hypothesis, regression analysis will be conducted using the above model. The results will indicate whether corporate governance rating score has a statistically significant effect on the borrowing cost of companies.

If the p-value for the coefficients $\beta_1$is less than the chosen significance level (0.05), then the study will reject the null hypothesis (H_0) and conclude that corporate governance rating score has a significant effect on borrowing cost. However, if the p-values are greater than the significance level, the study will fail to reject the null hypothesis and conclude that corporate governance rating score does not significantly affect borrowing cost.

Estimation Method: Dynamic Panel-Data Estimation, Two-Step System GMM

In this context, a dynamic panel data model is estimated using the two-step System Generalized Method of Moments (SGMM) as in other hypotheses. This method is particularly suitable for addressing potential endogeneity issues and controlling for unobserved heterogeneity in panel data. The justification for the GMM estimation is in-line with the procedure stated in section 4.3.

Model Specification

The dynamic nature of the model implies that past values of the dependent variable (borrowing cost) may influence current values. Hence, lagged dependent variables might be included as

additional explanatory variables.

The extended model is stated as:

$BC_{it} = \beta_0 + \beta_1 BC_{it-1} + \beta_2 CGRS_{it} + \varepsilon_{it}$

Restated as:

$BC_{it} = 3.094 + 0.461 BC_{it-1} - 3.981 CGRS_{it}$

Table 4.6: Results of Analyses for Main Model