# CORPORATE GOVERNANCE MECHANISMS AND FINANCIAL REPORTING TIMELINESS IN NIGERIA

**Cynthia OHIENGBOMWAN**

**MGS1813665**

**DEPARTMENT OF ACCOUNTING**

**FACULTY OF MANAGEMENT SCIENCES**

**UNIVERSITY OF BENIN**

**BENIN CITY**

**MAY, 2025**

# CORPORATE GOVERNANCE MECHANISMS AND FINANCIAL REPORTING TIMELINESS IN NIGERIA

**Cynthia OHIENGBOMWAN**

**MGS1813665**

**BEING A PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTING, FACULTY OF MANAGEMENT IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE AWARD OF BACHELOR OF SCIENCE (BSC) HONS. DEGREE OF THE UNIVERSITY OF BENIN, BENIN CITY.**

**MAY, 2025**

## DECLARATION

**I hereby declare that**:

This study is based on a study undertaken by me in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, under the supervision of Dr. J. Ojeaga.

This work has not been previously submitted for the award of degree elsewhere. Ideas and views are product of my personal research and where the view of others has been expressed, they have been duly acknowledged.

..... .....

**Cynthia OHIENGBOMWAN** **Date**

## CERTIFICATION

We the undersigned hereby certify that this research project was carried out by **Cynthia OHIENGBOMWAN** of the Department of Accounting, University of Benin, Benin City and do approve that it is adequate in scope and quality in partial fulfilment of the award of Bachelor of Science (BSc.) degree in Accounting, University of Benin, Benin City.

| | |
|---|---|
| ..... | ..... |
| **DR. J. OJEAGA** | **DR. U.OBAZEE** |
| (Project supervisor) | (Project coordinator) |
| ..... | ..... |
| Date | Date |

.....
**PROF.O. OBARETIN**
(Head of Department)

.....

Date

## DEDICATION

This project is dedicated to God Almighty for making its success possible, and to my parents for their resolute support.

## ACKNOWLEDGEMENTS

I would like to express my heartfelt gratitude to the Supreme Power, the Almighty God, who has been my source of strength from the very beginning until now.

To my dear parents, Mr. and Mrs. John Ohiengbomwan, your unwavering support has been a solid pillar in my life, thank you very much to you both. I deeply appreciate my siblings for their constant financial support and prayers.

My sincere appreciation goes to Dr. Obaretin O. (Head of Department), Dr. Obaze U. (Project Coordinator), Dr. Oboh T., Dr. Audu G., Drs. Umanah and Edosa, Prof. Ibrahim Shaibu, and all other lecturers who have imparted valuable knowledge to me.

To my friends and colleagues, thank you for always being there. May God richly bless you all.

# TABLE OF CONTENTS

## ABSTRACT

*The study investigated the impacts of selected corporate governance mechanisms on the timeliness of financial reporting for Nigerian-listed companies. It specifically focused on ascertaining the effects of board independence, board size, board meetings, and audit committee size on the timeliness of financial reporting as the dependent variable.*

*The study used secondary data on the four selected independent variables for sixty-three non-financial companies listed on the Nigerian Exchange Group (NGX) from 2018 to 2022. The data was analysed using descriptive statistics, a correlation matrix, and panel regression techniques. The result showed that only the variables of board independence and board meetings significantly affect the timeliness of financial reporting, while board size and audit committee size did not significantly influence the financial reporting lag in the periods captured by the study.*

*The study recommends, among others, that the management of Nigerian listed companies should maintain the current proportion of non-executive directors and also ensure that board members with accounting knowledge are in the majority, while also increasing the number of shareholders in the audit committees for more effective monitoring.*

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the study

Timeliness is one of the key qualitative attributes of financial reporting that influences the relevance of the information contained in financial reports. The passage of time reduces the importance of information contained in financial reports for the purpose of making decisions (Agbaje & Oladutire, 2021). Investors and other market participants can only evaluate a firm's actions and make investment decisions based on its financial reports (Ashraf, Michas, & Russomanno, 2020). Hence, a timely release is necessary.

Similarly, professional accountants, auditors, and other regulators have recognised the timeliness of financial reports as a key attribute of financial reporting quality (Hussaini & Tivde, 2023). Users must have timely access to financial information to make informed decisions. Any delay in releasing the financial reports will give access to some set of investors, primarily those who are wealthy or influential, to acquire costly private, unreleased information. Hence, this will enable these well-informed investors to exploit their private information at the expense of the less-informed investors (Afify, 2009). Therefore, annual financial reports have to be released on time so as to reduce insider trading and rumours among emerging capital markets (Ghafran & Yasmin, 2018; Kamran,

2003). Generally, producing timely, accurate financial reports helps to build trust and confidence in governance (Appah & Emeh, 2013).

The trade-off between timeliness and accuracy necessitates careful consideration when ensuring timeliness. A firm might be timely in releasing its annual financial reports, but the required information might not be available in such reports. The accuracy of the information also contributes to the quality of the reports. Consequently, if firms are providing substandard information to meet the stipulated deadline, it implies that the Security and Exchange Commission (SEC) has not yet achieved its goal in the preferred manner (Bryant-Kutcher & Peng, 2006). As a result of their failure to submit their financial reports by the SEC's deadline, insurance companies in Nigeria have recently been subject to a sizable fine. For instance, the Nigeria Stock Exchange (NSE), now called the Nigerian Exchange Group (NGX), sanctioned the firms a huge sum of money for their late submission of their audited annual financial reports. The affected companies' shareholders have expressed serious concern as the fine to the commission has impacted their returns (Agbaje & Oladutire, 2021).

The SEC, which is the regulator of the Nigerian stock market, sets a deadline of March 31 for every listed firm to submit its audited financial reports ending on December 31 in the previous year. Furthermore, the Companies and Allied Matters Act CAMA (1990), as amended, also stipulates that all listed firms must make their audited financial reports

available to the users three (3) months after their financial year ends. However, firms make the presentation of their financial reports take much longer than this date (Modugu, Eragbe, & Ikhatua 2012). Moreover, the National Insurance Commission (NAICOM) also sets the 30th of June for every insurance firm to submit their annual financial report. In spite of these, a few listed insurance firms only meet the deadlines, while the remaining firms submit their reports after the deadline dates. According to the SEC, early filers are those firms that submit their financial reports four (4) weeks before the deadline. The SEC compliance reports showed that out of the 28 listed insurance firms on the stock exchange, none of these firms submitted their financial reports for 2014, 2015, and 2016 four weeks before the deadline. Moreover, the code of corporate governance also requires the board to ensure timeliness, accuracy, and continuous disclosure of information and activities of the company. This is because the timeliness of financial reports is a crucial quality of financial information, and its delay may lead to costs to investors and the relevant users (Brown, Dobbie, & Jackson, 2009). Therefore, the board of directors has to take an interest in the timely filing of their annual financial reports, as failure to do so indicates the failure of the board. Despite these provisions, the insurance firms continue to be noncompliant. This has been an issue of concern to the financial players, as the financial reports are vital for making informed decisions. Since the adoption of International Financial Reporting Standards, insurance firms have faced difficulties in

preparing and presenting their accounts, which is the cause of this problem (Thisday, 2017). The board of directors bears a crucial responsibility to execute corporate governance within the company to mitigate this issue. In today's corporate environment, a selfless board of directors, a well-functioning audit committee, a balanced ownership structure, and an independent external auditor are what make up good governance (Habbash 2010). Mohamad-Nor, Rohami, and Wan-Hussin (2010) and Saidi (2011) assert the importance of effective corporate governance in establishing a sound financial reporting system. Efficient communication, monitoring, and coordination within the board are necessary in order to have early filing of the financial reports (Wu, Wu, & Liu, 2008).

### 1.2 Statement of the Problem

Researchers have conducted several studies on the timeliness of financial reports in both developed and developing countries, using the characteristics of the firms as the independent variable. Iyoha (2012); Al-Tahat (2015). However, only a few studies (Nehme, Assaker, & Khalife, 2015) have used corporate governance variables to determine the timeliness of financial reports. Thus, studies such as Abdelsalam and Street (2007) and Clatworthy (2010) provided evidence on the effect of corporate governance variables on the timeliness of financial reports, but the results of their studies were inconsistent. Though in Nigeria, Ilaboya and Christian (2014) and Ibadin, Izedonmi, and

Ibadin (2012) examined the effect of corporate governance attributes on the timeliness of corporate financial reports, they based their conclusions on cross-sectoral analysis without adequately controlling for sectoral heterogeneity, which makes their results unreliable. In addition, the time lag of the studies necessitates a replication of the study. This is because of some events that have taken place after the period considered in the studies.

Moreover, very few studies have been conducted in the financial sector; for instance, Ahmed and Che-Ahmad (2016) and Akhor and Oseghale (2017). The banking sector carried out these studies, using audit committee attributes and some selected board attributes as the independent variables. Despite the fact that both banking and insurance firms are financial institutions, industry regulations, policies, and other sectoral environmental changes prevent extrapolating the findings from the banks to the insurance firms. Moreover, the operations of the banks and insurance firms are based on different models that lead to some notable contrasts between them (Thangavelu 2015). This recognition necessitates a specific examination of how board characteristics, such as board meetings, board independence, and board size, impact the timeliness of financial reporting for listed firms in Nigeria. The motivation of this study is due to the persistent delay by these firms in releasing their financial reports. This persistent issue has resulted

in them having to pay hefty fines to regulatory bodies, which is significantly impacting the shareholders' return (Vanguard 2017).

### 1.3 Objectives of the Study

The broad objective of this research is to examine the impact of selected corporate governance attributes and timeliness on financial reporting in Nigeria. However, the specific objectives are:

1. To examine the effect of board independence on the timeliness of financial reporting in Nigeria.
2. To examine the effect of board meetings on the timeliness of financial reporting in Nigeria.
3. To examine the effect of board size on the timeliness of financial reporting in Nigeria.

- To examine the effect of audit committee size on the timeliness of financial reporting in Nigeria.

### 1.4 Research Questions

1. How does board independence have a significant influence on the timeliness of financial reporting in Nigeria?

2. How does a board meeting have a significant influence on the timeliness of financial reporting in Nigeria?
3. What is the effect of board size on the timeliness of financial reporting in Nigeria?
4. To what extent does audit committee size affect the timeliness of financial reporting in Nigeria?

### 1.5 Research Hypotheses

The study formulated the following hypothesis based on its objectives and research questions:

**$Ho_1$:** There is no significant relationship between board independence and the timeliness of financial reporting in Nigeria.

**$Ho_2$:** There is no significant relationship between board meetings and the timeliness of financial reporting in Nigeria.

**$Ho_3$:** There is no significant relationship between board size and the timeliness of financial reporting in Nigeria.

**$Ho_4$:** There is no significant relationship between audit committee size and the timeliness of financial reporting in Nigeria.

## 1.6 Scope of the Study

The study covers selected sample of the non-financial firms quoted on the Nigeria Exchange Group (NGX) for a period of five (5) financial years, that is, from 2018 to 2022.

## 1.7 Significance of the Study

This research work, when completed, will provide answers to some pertinent questions as regards the timeliness of financial reporting in Nigeria as well as offer solutions to some existing challenges currently faced in this area. Its significance is all-encompassing in the sense that every stakeholder in the sector under review will have access to good information to aid him or her in making decisions.

Some of these stakeholders include shareholders, directors of firms, the public government, and students of accounting. Also, prospective researchers have access to work in this sector and can build on this study, identifying areas untouched and conducting further research on them.

The auditors will find the result of this study also useful in the course of performing their professional duties in terms of reporting on the financial statement, especially the investment limit, and also with regard to contributory rates and regular remittances.

Financial analysts and economic policymakers will be acquainted with the impact of pension performance acts on pension schemes and their multiplier effect on the economy.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter focuses on the relevant literature regarding the timeliness of financial reports. The study divides the chapter into conceptual, theoretical, and empirical literature.

## 2.2 Timeliness of Financial Reporting

Financial reporting involves recording financial information according to relevant accounting standards. According to Vargiya (2015), financial reporting includes the exposure of related financial information to different stakeholders about an organisation over a predefined timeframe. A substantial body of literature exists on the timeliness of financial reports, specifically focusing on the period from the end of the fiscal year to the development date of the audit report. Timely corporate financial reporting is an important qualitative attribute and a necessary component of financial accounting (Jenfa, 2000; Haw, Qi, & Wu, 2014). Financial information needs to be available to its users as rapidly as possible to make corporate financial statement information relevant for the decision-making process (Belkaoui, 2012). Aljifri and Khasharmeh (2010) stated that timely reporting of financial results is necessary for healthy financial markets.

Timely financial reporting helps in the efficient and timely allocation of resources by reducing the dissemination of asymmetric information, improving the pricing of securities, and mitigating insider trading, leaks, and rumours in the market (Kamran, 2013). Timeliness in financial reporting enhances the usefulness of the financial information. According to Hussaini and Tivde (2023), the timeliness of audited financial reports significantly influences the usefulness of financial information available to external users. Audit report lag, which is the number of days from fiscal year end to audit report date, or inordinate audit lag, jeopardises the quality of financial reporting by not providing timely information to investors. According to Mohammed-Nor, Shafie, and Wan-Hussin (2010), delayed disclosure of an auditor's opinion on the true and fair view of financial data put together by the management exacerbates information asymmetry and raises uncertainty in investment decisions.

We can argue about timeliness from three perspectives. Preliminary lag, which is the interval between the balance sheet closing date and the date of the notice of the annual general meeting; audit report lag, which is the interval between the balance sheet closing date and the signed date of the auditor’s report; and total lag, which is the interval of days between the balance sheet closing date and the annual general meeting. Timeliness is one of the qualitative characteristics of financial reporting, which determines the relevance of the information in the financial reports. Over time, the relevance of information in

financial reports for decision-making diminishes (Efobi & Okougbo, 2015). The only means through which investors and other market players can assess the activities of the firm before taking any investment decisions is through the financial reports (Li, Zhang, & Wang 2014). Therefore, a timely release is crucial. Similarly, professional accountants, auditors, and other regulators have identified the timeliness of financial reports as a key attribute of financial reporting quality (McGee & Tarangelo, 2008). Users must have timely access to financial information to make informed decisions (Appah & Emeh, 2013). Any delay in releasing the financial reports will give access to some set of investors, primarily those who are wealthy or influential, to acquire costly private, unreleased information. Hence, this will enable these well-informed investors to exploit their private information at the expense of the less-informed investors (Afify, 2009). Therefore, annual financial reports have to be released on time so as to reduce insider trading and rumours among emerging capital markets (Kamran 2003). Generally, producing timely, accurate financial reports helps to build trust and confidence in governance.

The trade-off between timeliness and accuracy necessitates careful consideration when ensuring timeliness. A firm might be timely in releasing its annual financial reports, but the required information might not be available in such reports. The accuracy of the information also contributes to the quality of the reports. Consequently, if firms provide

substandard information to meet the stipulated deadline, the Security and Exchange Commission's goal remains unachieved (Bryant-Kutcher & Peng, 2006) in the preferred manner. As a result of their failure to submit their financial reports by the SEC's deadline, insurance companies in Nigeria have recently been subject to a sizable fine. For instance, the NGX sanctioned the firms a huge sum of money for their late submission of their audited annual financial reports. The affected companies' shareholders have expressed serious concern, as the fine they paid to the commission has impacted their returns (Ku-Ismail, 2014).

### 2.2.1 Board Independence

Berghe and Baelden (2015) examined the issue of independence as an important factor in ensuring board effectiveness through the monitoring and strategic roles of the directors. The ultimate factor in board independence is acquiring enough independent directors. They stated that the director’s ability, willingness, and board environment might lead to the independent attitude of each director. According to Kakabadse, Yang, and Sanders (2010), the formal independence, information accessibility, incentives offered, and competency of non-executive directors in China determine their effectiveness. However, they found out that the non-executive director system in China was weak because there was too much intervention by controlling shareholders and a lack of understanding of the functions of non-executive directors. Johari, Saleh, Jaffar, and Hassan (2014) indicated

that the minimum composition of the independent director required by the Malaysia Code of Corporate Governance is still not adequate enough to monitor the management. They concluded that the composition of the independent directors on the board was not associated with earnings management. They found out that most of the firms in Malaysia have 1/3 or 33% of the independent directors on the board, but it did not have any effect on the earning management. Besides, Wooi and Ming (2016) indicated that the independent directors have failed in their internal monitoring role in Malaysian government-linked companies (GLCs).

Nowak and McCabe (2017) have studied the roles of independent directors in Australian publicly listed companies by interviewing 30 directors. The participating directors agreed that a majority of non-executive directors (NEDs) on the board would provide a safeguard for a balance of power or management relationship. Besides that, there was a distinction between the boards with independent non-executive directors and non-independent directors. Independent directors would provide a variety of independent thinking, and the majority of them could reduce the dangers of ‘group thinking'. Some researchers also analysed the relationship of the Chief Executive Officer (CEO) with the board’s independence. Abdullah (2014) indicated there was no association between the board’s independence and the CEO’s duality with performance.

A study by Ararat, Orbay, and Yurtoglu (2010) on the board independence of controlled firms in Turkey revealed three key findings. The first finding indicated there was no significant effect of board independence or equity issues. Moreover, the independent directors in Turkey were less efficient in restraining related-party transactions. Also, they found that there was a negative relationship and a non-relationship between independent directors and the firm's performance. The results were due to the fact that the independent directors of Turkey's listed companies were not truly independent. The independent directors had personal, financial, and social ties with the dominant shareholders, and this influenced their independent judgement, thus jeopardising their functioning as independent directors.

### 2.2 Board Size

Boards of directors, which consist of top-level executives of firms and non-executive outside members, are institutions that carry out the role of ratifying and monitoring managerial decisions with the help of the non-executive outside members. Therefore, apart from the mix of executive and non-executive directors, the appropriate size is a precursor and critical factor in financial reporting quality. The board size consists of the total number of directors on the board (Ibadin & Dabor, 2015). This categorization is considered to be a crucial characteristic of the board structure. A big board could give companies the variety they need to get important resources and lessen the uncertainty in

the business environment (Ararat et al., 2010). This could impact the quality of financial reports, the agency's desire and ability to present those reports, and the speed of problem resolution and improvement (Ibadin & Dabor, 2015). However, large boards can result in difficulty in effective communication among members. This can jeopardise corporate interests when exigencies are sacrificed at the altar of incommunicado. Despite the debate over what constitutes the appropriate board size, the Code of Corporate Governance (2013) pegs a maximum board size at fifteen (15). Board size is believed to be very fundamental to effective corporate decision-making (CBN, 2013; CBN, 2016). The code of corporate governance of quoted companies, banks, and financial institutions in Nigeria has prescribed an optimal board size of between a minimum of 5 and a maximum of 20 members at various times.

A key finding is that there are significant internal contextual variables that are likely to impact the extensiveness, quality, quantity, and completeness of corporate social and ethical reporting, one of which is undoubtedly the board size, which affects the quality of disclosure of these firms. The study found that the process of reporting appears to depend on country of origin, corporate size, and corporate culture. These variables appear to influence aspects of the process, such as the degree of formality versus informality, the departments involved, and the extent of stakeholder engagement. We found that accountants were neither involved in data collection nor considered appropriate to be

involved. The attitudes of interviewees were also likely to have an influence on the extent and nature of reporting. For example, the main motivation for corporate ethical reporting was to enhance corporate image and credibility with stakeholders.

### 2.2.3 Board Meeting

Another measure of board effectiveness is the number of meetings held in a year. The meeting reflects the diligence and vigilance of the board in carrying out their monitoring duties (Persons 2006). Consistent with agency theory, board meeting frequency is an element of strong corporate governance (Ibadin & Dabor, 2015). If a firm is efficient in setting the frequency of its board meetings, it will attain economies in agency costs (Vafeas, 2012). In other words, board activity, as indicated by meeting frequency, affects the board's capacity to serve as a useful monitoring mechanism for mitigating conflicts (Xie 2013). Nelson (2010) expects increased monitoring to lead to reduced information asymmetry and lower agency costs, which in turn increase disclosures. Therefore, if the situation requires significant supervision and control, frequent board meetings would enhance board effectiveness (Conger 2015) and, hence, its ability to address stakeholder interests, which, in turn, may positively affect disclosure decisions. Frequent board meetings would facilitate better communication and information sharing among directors (Shivdasani and Zenner, 2014) and would allow better workload distribution and committee assignments, leading to more effective board decisions and increased

transparency. One argument also links the frequency of meetings to the quality of reporting. In addition, an active board that meets more often is able to devote more time to issues such as social and environmental responsibility. Therefore, a small number of meetings could compromise the effectiveness of the board. Infrequent meetings reduce the ability of boards to build their collective strength (Shivdasani and Zenner).

### 2.2.4 Audit Committee

According to Wild (2016), the audit committee is a sub-committee of those charged with governance and is typically made up of a majority of non-executive directors who are the shareholders' representatives in relation to the external audit. They are usually responsible for overseeing the audit and evaluating the independence and performance of the auditors. An important role of the audit committee is to assess and recommend the appointment or reappointment of the audit firm. The audit committee also provides a forum for the auditors to escalate and discuss any significant concerns they may have about any aspect of the financial statements prepared by management. The chair of the audit committee has a vital role to play in assessing management's tone from the top with respect to the company's financial reporting. As well as their public report on the financial statements, the auditors will typically have more detailed communications with the audit committee. These communications may include a description of how the audit was carried out, the audit plan, the auditor's views about the company's accounting

practices (including accounting policies, estimates, and disclosures), how the auditors satisfied themselves on the key issues that arose, and any significant difficulties, if any, encountered during the audit. The auditors may also comment to the audit committee on their insights in areas such as the strength of the organisation's internal control systems.

In Nigeria, the SEC, under the provisions of the Companies and Allied Matters Act (CAMA 1990: Section 359, sub-sections 3 and 4), requires all listed companies on the Nigerian Stock Exchange (NSE) to establish audit committees (SEC, 2003). The widespread acceptance of audit committees underscores their significance in promoting corporate accountability and transparency, with the expectation that they will act as the guardians of stakeholder interests. Prior studies have demonstrated a positive relationship between audit committee formation and earnings quality (Baxter & Cotter, 2009).

**2.3 Board Independence and Timeliness of Financial Reports.**

Foreign studies have documented a strong relationship between board characteristics, timeliness, and financial reports. Garkaz (2016) examined the effect of board characteristics on the timeliness of financial reporting in Nairobi. The study used board independence and board size as proxy variables for board characteristics, and audit report lag as a proxy for the dependent variable (timeliness of financial reports). The study analysed 107 listed firms for the period 2012–2014. The study adopted multiple regression analysis, which revealed a significant relationship between board

independence and the timeliness of financial reports. Fujianti (2016) in Indonesia investigated the market reaction to the timeliness of financial reporting by listed firms for the period 2013. The study applied logistic regression, and it showed that board independence has an effect on the timeliness of financial reports. However, the result of this study cannot be generalised because only one accounting period was studied.

Basuony (2016) examined board characteristics, ownership structure, and audit report lag in 11 Middle Eastern countries. Board size, board independence, CEO duality, director ownership, self-concentration, foreign ownership, and institutional ownership all served as proxies for the independent variables (board characteristics and ownership structure). We implemented the analysis on 201 firms for the period 2009–2013. We used ordinary least squares and ridge regression for the study's analysis. The result of the study showed that board independence is significant for audit report lag. Ahmad and Daoud (2015) conducted a study on the impact of internal corporate governance on the timeliness of financial reports in Jordan, and this finding aligns with their findings. We used board independence, board size, CEO duality, board diligence, and board financial expertise as proxies for internal corporate governance, and management and audit report lag as proxies for the timeliness of financial reports. The study analysed 112 firms listed on the Jordanian stock exchange for the periods 2011 and 2012. Analysis of the multiple regressions showed that a board that is independent from management takes a

significantly shorter time to prepare and issue their financial reports. However, since differences in economy are a significant gap in the literature, there is therefore a need to replicate the same studies in Nigeria.

Similarly, in Nigeria, Appah and Emeh (2013) examined the corporate governance structure and timeliness of financial reports in selected Nigerian listed firms. An analysis was implemented on 34 listed firms on the NSE for the period 2007–2011. We used board independence, board size, board expertise, board experience, CEO duality, and board meetings to proxy the independent variable (corporate governance), and we used audit report lag to proxy the timeliness of financial reports. The results of the multiple regression model showed that there is a significant relationship between board independence and the timeliness of financial reports. The study suggested that listed firms should implement corporate governance codes in their daily operations to accomplish their short-, medium-, and long-term objectives. However, the study did not take into consideration the heterogeneity of the selected samples.

In contradiction, Ilaboya and Christian (2014) investigated corporate governance and audit report lag in manufacturing firms listed on the NSE for the period 2007–2011. The data analysis employed ordinary least-squares regression. The result of the analysis showed that board independence has no significant effect on audit report lag. Additionally, the study suggested that board independence should consist of people of

integrity who can match words with deeds and encourage prompt financial disclosures for the benefit of the shareholders they represent. Ibadin (2012) also found the same result after investigating the association between corporate governance and corporate attributes of selected firms quoted on the NSE. We applied ordinary least squares regression to 118 sampled firms for the year 2010. The result of the analysis showed that board independence is not significant to the timeliness of financial reports. The study recommended that companies put in place measures to reduce the time lag between the financial year-end and the annual general meeting (AGM).

### 2.4 Board Meeting and Timeliness of Financial Reports

Few studies have examined the relationship between board meetings and the timeliness of financial reports; we reviewed both foreign and local literature. In their study, Li et al. (2014) investigated board meetings with other corporate and board attributes in Nigeria. Li et al. (2014) employed the ordinary least squares technique for analysis, revealing no effect of board meetings on the timeliness of financial reports. This finding is consistent with Appah and Emeh (2013), who examined the corporate governance structure and timeliness of financial reports in Nigeria. The study employed ordinary least squares on 118 listed firms on the NSE for the period 2007–2011. However, none of these studies used theory to underpin the study.

In contrast, the study of Ahmed and Che-ahmad (2016) investigated the effect of corporate governance characteristics on audit report lag in Nigeria. The study looked at 14 banks listed on the NSE for the period 2008–2012. The study employed panel data techniques and found a significant positive relationship between board meetings and audit report lag. The literature's inconsistencies indicate the need for additional research.

### 2.5 Board Size and Timeliness of Financial Reports

Ahmed and Che-ahmad (2016) investigated the effects of corporate governance characteristics on audit report lags in Nigeria. Audit quality, board size, audit committee size, risk committee size, board committee expertise, board meetings, and board committee gender served as proxies for the independent variable (corporate governance characteristics). The study analysed 14 banks for the period of 2008–2012. They employed the panel data technique of analysis and found a positive and significant relationship between board size and audit report lag.

Fakhfakh and Jarboui (2016) researched the determinants of audit report timeliness in Tunisia. The study applied panel data methodology to 28 firms listed on the Tunis stock exchange for the period 2006–2013. We used external audit characteristics, board size, board independence, CEO duality, and ownership structure as the determinants. We underpinned the study with agency theory. Using regression analysis, the results of this study revealed that board size significantly affects the timeliness of audit reports. It is on

the basis of this finding that the study concluded that good corporate governance plays a key role in improving the quality and timeliness of financial reports. The finding was also consistent with Basuony, Mohamed, Hussain, and Marie (2016), who examined the board characteristics, ownership structure, and audit report lag of 11 Middle Eastern countries. They conducted the study in the non-financial sector, utilising 201 listed firms from 2009 to 2013. However, Li and Liu (2014) suggest that the studies conducted in other countries leave a significant gap in the literature due to differences in economies. Therefore, undergoing similar research in Nigeria is an important contribution to the body of knowledge.

Fujianti (2016) analysed market reactions based on the timeliness of financial reports in Indonesia. We implemented the analysis on a sample of 96 companies listed on the Indonesian stock market in 2013. Using logistic regression, the result of the study revealed that board size is not significant to the timeliness of financial reports. In line with this finding is that of Ibadin et al. (2012), who examined the association between selected corporate governance attributes, corporate attributes, and the timeliness of financial reports in Nigeria. They selected a sample size of 118 listed firms on the NSE for the 2010 period. Board independence, board size, company size, leverage, profitability, audit firm size, and audit delay served as independent variables, while total delay served as a proxy for the timeliness of the financial report. The study recommended

that in order to reduce the timeliness to the barest minimum, the NSE, SEC, the Financial Reporting Council, the Central Bank of Nigeria, and other regulatory bodies should put in place measures to ensure strict compliance with the laid-down rules and regulations. However, the fact that these studies only looked at one accounting period renders the results inconclusive, as it is impossible to determine the effect of the variables using a single period. Moreover, the studies based their conclusions on cross-sectoral analysis without adequately controlling for sectoral heterogeneity. Therefore, there is a need to replicate the study using a larger period.

Garkaz, Abdollahi, Niknam, and Branch (2016) investigated the effect of board characteristics on the timeliness of financial reporting in Nairobi. The study used board independence and board size to proxy board characteristics and audit reports to proxy the timeliness of financial reports. We used a sample size of 107 listed firms on the Nairobi stock exchange for the period 2012–2014. The result of the multiple regression analysis showed that board size has a positive and significant relationship with the timeliness of financial reporting.

**2.6 Audit Committee and Timeliness of Financial Reports**

Simnett (1995), in an Australian study, reports a steady increase in mean audit delay in Australia over the study period of 1981–1989 and finds that the prior year's audit delay is the major explanatory variable explaining audit delay. They also discover that audit delay

has an inverse relationship with profit (six out of the eight years) and audit complexity but a direct relationship with qualified opinions (three of the latest years) and busy season year-ends (four out of the eight years). The study did not find firm size, leverage (except for just one year), extraordinary items, or audit structure to be explanations for audit delay.

Carslaw and Kaplan's (1991) study of New Zealand examines the effect of nine variables on audit delay using data from 245 and 246 listed firms for 1987 and 1988, respectively. The results show that total assets and net profit were significant in both years, while client industry, extraordinary items, company ownership, and leverage were significant in a single year. In a Canadian study, Ashton et al. (1989) used eight auditor- and client-specific variables to explain audit delay. They find that companies in the non-financial services industry reporting extraordinary items and losses and those receiving qualified audit opinions had significantly longer delays. Conversely, the size of the company, the year-ends during the busy season (December–January), and the size of the auditor all have an inverse relationship with audit delays. Bonson-Ponte et al. (2008) analysed the factors that determine delays in the signing of audit reports on the Spanish continuous market for the period from the year 2002 to the year 2005. They found that the classification of sectors that are subject to regulatory pressure (financial and energy sectors) and the size of the company affected the audit delay. Variables such as audit firm,

qualifications, or regulatory change show no significant relationship with audit delay in Spain. The results show that companies with larger relative sizes sign the audit report in fewer days. Additionally, companies classified into internally regulated sectors, subject to regulatory pressures, sign the audit report before those in unregulated sectors. Haw and Wu (2000) examine the relationship between firm performance and the timing of annual report releases by listed Chinese firms. They find that good news firms release their annual reports earlier than bad news firms, and loss firms release their annual reports the latest.

McGee and Yuan (2011) compare the timeliness of financial reporting in the Republic of China, the United States, and the European Union (EU). Their study also compares timeliness data on the basis of audit firms to determine whether companies audited by one of the Big 4 firms are timelier in their financial reporting. Results indicate that Chinese companies took significantly longer to report financial results than either the EU or US companies. EU companies took significantly longer to report financial results than US companies. Companies that are not timely in their financial reporting practices find it more difficult to attract capital. Their corporate governance practices are also seen as less than ideal, which has a negative effect on a company's reputation within the financial community. Thus, Chinese companies that are slow in reporting their financial results may suffer negative consequences in terms of reputation and their ability to raise capital.

Jaggi and Tsui (1999) examine the impact of company-specific characteristics on audit delay in Hong Kong by incorporating the firm's financial condition, ownership control, and audit firm technology. They obtained data from 393 firms listed on the Hong Kong Stock Exchange over a period of three years, from 1991 to 1993. Their results show that firm size, firm's financial condition, audit approach (degree of structure), degree of diversification, and audit opinion are significant explanatory variables for audit delay in Hong Kong. Abdulla (1996) finds a significant relationship between timeliness and firm size, profitability, and distributed dividends. Owusu-Ansah (2000) employs a two-stage least squares regression model and finds size, profitability, and company age as significant determinants of the reporting lags of Zimbabwean listed companies. Imam et al. (2001) focus on the possible association between audit delay and audit firms' international links as a proxy for auditor quality. They find that auditors with international links take longer to complete than their unaffiliated peers.

## 2.7 Theoretical Framework

This section explains the related theory on which the study is based. Various theoretical perspectives explain the relationship between different corporate governance characteristics and the timeliness of financial reports. We used agency theory to underpin this study.

### 2.7.1 Agency Theory

According to Jensen and Meckling (1976), agency relationships involve a contractual agreement in which the principal hires another party, the agent, to perform certain services on his behalf and grants the agent some decision-making power. In the real-world scenario, the agent is the management who runs the activities and makes decisions, while the principal or shareholders are parties that assess how the agent behaves towards the activities the principal entrusts them with. According to Brennan (1995), agency problems may arise if the agent fails to act in the best interest of the principal. It happens in a company when the management (agents) has an incentive to achieve their own interests at the expense of the shareholders (Agrawal & Knoeber, 1996) and will act in an opportunistic way to maximise their rewards. The delay in releasing the financial report can make investors lose confidence in the report and increase the agency problem (Ilaboya & Christian, 2014). That is why corporate governance mechanisms (corporate ownership structure, board of directors, auditor, and audit committee) were established to reduce conflict in companies (Yunos, 2011; Habbash, 2010). Therefore, the company's board of directors has to act in the interest of the shareholders by ensuring timeliness in releasing the financial reports so as to mitigate the problem.

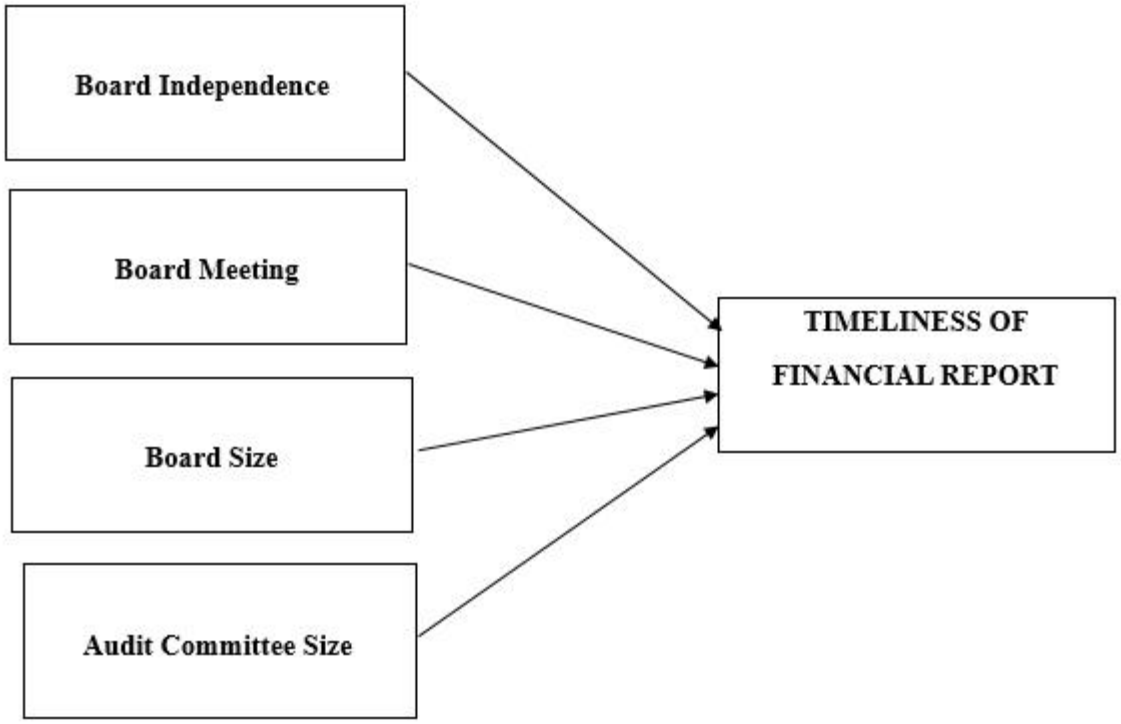



Figure 2.1: Conceptual diagram the timeliness to Financial Reporting

The above theoretical framework explains the relationship between corporate governance and timeliness of financial reports

## 2.8 Empirical Review

Researchers from all over the world have studied the literature on corporate governance, financial reporting timeliness, and the factors that influence it. For example, in their study, Hussaini and Tivde (2023) investigated the impact of corporate governance characteristics on the promptness of financial reporting by publicly traded companies in Nigeria. The study specifically analysed the governance characteristics (independence of

the board, size of the board, and diversity of the board in terms of gender) and their impact on the promptness of financial reporting. The study utilised an ex post facto research design. All the conglomerates officially listed on the Nigerian stock exchange between 2012 and 2021 comprised the study's population. However, the sample included a total of 64 firms. We collected a set of balanced panel data from the financial statements of 64 Nigerian enterprises, spanning the period from 2012 to 2021. We measured the timeliness of financial reporting using the audit report lag. The logistic regression analysis indicated that board independence and board size had a statistically significant influence on the timeliness of financial reporting in Nigerian-listed companies. However, the study observed no significant effect on board gender diversity. The study found that corporate governance is a factor that influences the timeliness of financial reporting for Nigerian-listed companies. The study recommends that the board of directors of listed firms should consistently ensure the prompt preparation of financial reports to maintain the interest of both existing and prospective investors in their businesses.

Givoly and Palmon (2012) pointed out that there was an improvement in the timeliness of the annual reports of 210 companies listed on the New York Stock Exchange (NYSE) during the period from 1960 to 1974. They found that reporting delays depend on industry types and traditions. The market reacts differently to early and late

announcements, despite the tendency to delay bad news. Abdulla (2016) provides through empirical evidence on the attribute of timeliness in the annual reports of 26 Bahraini companies that there is a significant negative relationship between timeliness of publication and a firm's profitability, size, and distributed dividends. However, he disagreed with them about the relationship between timeliness and industry membership. He found that there was an insignificant relationship in his study.

Oladipupo & Izedomi (2013) assessed the factors that affected three types of delay in 75 companies quoted on the Nigerian Stock Exchange from 2000 to 2010 in Nigeria: audit, management, and total delays. The results showed that the audit delay was about 163 days, while the management delay and total delay were 92 days and 255 days, respectively. These showed that audit delay contributed more significantly to total delay than management delay in corporate financial reporting.

Vuran and Adiloğlu (2013) pointed out through examining the relationship between the timeliness of corporate financial reporting and accounting and auditing in listed non-financial companies on the Istanbul Stock Exchange for the year 2009 that, for separate audited financial statements, the timeliness of the financial statements is related to the sign of net income, ROA, current ratio, and the audit opinion, while for consolidated audited financial statements, the timeliness of the financial statements is related to the sign of total equity, total assets, and cash flow from operations/interest expense.

Engel (2012), in examining company attributes, divided them into three categories: uncontrollable, partially controllable, and controllable. Controllable attributes are those that fall outside the direct control of the firm and include organisational size and structure. Partially controllable attributes are those that cannot be changed at will by the firm but are susceptible to change in the long run and include organisational resources and organisational maturity. And the controllable attributes are those under the control of the firm.

In Malaysia, Ku-Ismail and Chandler (2014) examined the timeliness of quarterly financial reports published by companies listed on the Kuala Lumpur Stock Exchange (KLSE). This study also extended prior research by determining the association between timeliness and each of the following company attributes: size, profitability, growth, and capital structure. An analysis of 117 quarterly financial reports ended on September 30, 2001. Of the 117 companies, they found only one company (0.9%) reported after the due date, and the financial reporting lag was 64 days. This means that the overall compliance rate was very high (99.1%). Evidently, the financial reporting lag for companies in this study was between 32 and 64 days, with a mean and median of 55.7 days and 58 days, respectively. This implies that, on average, companies reported about 5 days before the due date. The study also provides evidence that there is a significant association between

timeliness and each of the four company attributes, and the association supports the hypothesis of the study.

Butler (2007) examined how the frequency of interim financial reporting affects earnings timeliness and the speed with which accounting information is impounded into price based on a sample of 28,824 reporting-frequency observations from 1950 to 1973. They found little evidence of a difference in either intra-period or long-horizon timeliness between firms reporting quarterly and those reporting semi-annually, even after controlling for self-selection. They found that the increase in reporting frequency had no statistically significant effect on the long-term timeliness of mandatory increases. Results indicate that, after the switch, voluntary increasers tend to recognise bad news more quickly but experience no change in the timeliness of good news recognition.

Turel (2010) examined the relationship between timeliness and both company-specific and audit-related factors in a developing country, Turkey. The objectives of this study are twofold. First, measure the extent of timeliness in a developing country, Turkey. Second, to establish the impact of both company-specific and audit-related factors on the timeliness of financial reporting in Turkey. This study reports the results of an empirical investigation of the timeliness of financial reports by 211 non-financial companies listed on the Istanbul Stock Exchange. The researcher found that 59% of the companies that prepare separate financial statements and 66% of the companies that prepare consolidated

financial statements release their financial statements less than the maximum time allowed after the financial year-end. 28% of the companies that prepare separate financial statements and 16% of the companies that prepare consolidated financial statements exceeded the regulatory deadline. The multivariate regression analysis indicates that both signs of income, audit opinion, auditor firm, and industry affect timeliness. The findings indicate that the companies that report net income, that have a standard audit opinion, and that are operating in the manufacturing industry released their financial statements earlier. On the other hand, the big four audit firms find that the companies they audit are late reporters.

# CHAPTER THREE

# METHODOLOGY

## 3.1 Introduction

This chapter focuses on the methodology the researcher used to fully execute and carry out the study. It also presents a description of the research design, population of the study, sample size, research instrument, validity of the research instrument, method of data collection, and data analysis.

## 3.2 Research Design

The study adopted a causal research design because we collected data over time from a variety of firms listed on the Nigeria Exchange Group (NGX).

## 3.3 Population and Sampling

Out of the entire one hundred and fifty-seven (157) companies listed on the Nigerian Exchange Group as of year-ended December 31st, 2022, the study chose the non-financial companies, numbering one hundred and eight (108), as the target population due to the peculiarities of the economic operations and differing corporate governance regulations. However, the study used the convenience sampling technique to randomly select sixty-three (63) companies with complete information as the final sample size, representing 58% of the population.

## 3.4 Source of Data

Data was collected from Secondary sources. The data was obtained from the databases of the NGX fact book. The reason behind using the Secondary data is based on comparability of the different samples used for the study.

## 3.5 Model Specification

We adopted the model that mathematically expressed economic growth as a function of financial structure.

TFR = f (AudC, BSize, BInd, BMeet) …….. (1)

Mathematically, the relationship above is translated into the model below:

$TFR = \bar{\alpha}_0 + \bar{\alpha}_1 AudC + \bar{\alpha}_2 BSize + \bar{\alpha}_3 BInd + \bar{\alpha}_4 BMeet + \ldots\ldots\ldots\ldots\ldots\ldots$ (2)

Where:

TFR = Timeliness of Financial Reporting

AudC = Audit Committee

BSize = Board Size

BInd = Board Independence

BMeet = Board Meeting

$\bar{\alpha}_1 - \bar{\alpha}_4$ = Coefficient

$e_t$ = Error Term

### 3.6 Method of Data Analysis

The method of analysis to be used is the Panel Regression technique. The sign and size of t-statistics will used to test the significance of the variables. The variables of the data will be analysed and the result will be discussed as well.

### 3.7 Operationalization of Variables

| S/N | VARIABLE | DEFINITION | Nature | SOURCE | APRIORI SIGN |
|---|---|---|---|---|---|
| 1. | Timeliness to Financial Reporting | The number of days from the financial year ends to the audit report signed | Dependent variable | Appah, & Emeh, (2013). | |
| 2. | Audit Committee | Measured as the number audit committee members of a company's board. | Independent variable | Mohamad-Nor, Rohami, & Wan-Hussin, (2010). | + |
| 3 | Board Size | Measured as the total number of directors on the board | Independent variable | Iyoha, (2012) | + |
| 4 | Board Independence | measured as the proportion of non-executive directors in the board | Independent variable | Habbash, (2010) | + |
| 5 | Board Meetings | measure using the number of meetings held by the board in a year | Independent variable | Saidi, (2011) | + |

Source: Authors' compilation, 2024

# CHAPTER FOUR

# DATA PRESENTATION AND ANALYSES

## 4.1 Introduction

This chapter focused on the presentation and analysis of the data, the interpretation of the results and the discussion of the relevant findings. The chapter also included the testing of the four (4) hypotheses formulated as outlined in the first chapter of this study. The analyses comprised of both univariate and multivariate analysis techniques.

## 4.2 Presentation of Results

**Table 4.1** ***Descriptive Statistics***

| | FRL | ACS | BS | BI | BM |
|---|---|---|---|---|---|
| Mean | 119.0730 | 5.752381 | 9.577778 | 0.604906 | 3.711111 |
| Median | 88.00000 | 6.000000 | 9.000000 | 0.600000 | 4.000000 |
| Maximum | 399.0000 | 7.000000 | 19.00000 | 0.900000 | 9.000000 |
| Minimum | 28.00000 | 4.000000 | 4.000000 | 0.000000 | 1.000000 |
| Std. Dev. | 82.69346 | 0.669361 | 3.110924 | 0.148415 | 0.826918 |
| Skewness | 2.224014 | -2.02838 | 0.706452 | -0.59803 | 0.443838 |
| Kurtosis | 6.812223 | 5.763939 | 2.958097 | 4.218988 | 8.569806 |
| Jarque-Bera | 450.4238 | 316.2686 | 26.22443 | 38.27918 | 417.5155 |
| Probability | 0.000000 | 0.000000 | 0.000002 | 0.000000 | 0.000000 |
| Sum | 37508.00 | 1812.000 | 3017.000 | 190.5452 | 1169.000 |
| Sum Sq. Dev. | 2147197. | 140.6857 | 3038.844 | 6.916526 | 214.7111 |
| Observations | 315 | 315 | 315 | 315 | 315 |

**Source: EViews 10 (2024)**

The descriptive statistics in Table 4.1 show the characteristics of the variables used in the study. As shown, the average FRL (financial reporting lag or timeliness of financial

reporting) within the periods captured by the study (2018–2022) is 119 days. This clearly shows that the lag in financial reporting is shorter within the period of 119 days, which is within the acceptable disclosure period stipulated by the Companies and Allied Matters Acts (CAMA) 2004 in Nigeria. Further, the mean value of board independence (BI) is 0.605, showing that there are higher proportions (over 60%) of independent board members among the sampled listed companies. The average board size is 10 members, with a maximum of 19 members. The audit committee members among the sample are numbered six on average. The average number of times the board of directors held meetings during the five-year period studied was four times (mean value = 3.71).

**Table 4.2** ***Correlation Matrix***

Covariance Analysis: Ordinary
Date: 02/02/24 Time: 19:13
Sample: 1 315
Included observations: 315

| Correlation<br>t-Statistic<br>Probability | FRL | ACS | BS | BI | BM |
|---|---|---|---|---|---|
| FRL | 1.000000 | | | | |
| | ----- | | | | |
| | ----- | | | | |
| ACS | 0.046587 | 1.000000 | | | |
| | 0.825096 | ----- | | | |
| | 0.4099 | ----- | | | |
| BS | -0.052964 | 0.065866 | 1.000000 | | |
| | -0.938344 | 1.167826 | ----- | | |
| | 0.3488 | 0.2438 | ----- | | |
| BI | 0.154685 | -0.098160 | 0.221295 | 1.000000 | |
| | 2.770005 | -1.745059 | 4.014639 | ----- | |
| | 0.0059 | 0.0820 | 0.0001 | ----- | |
| BM | -0.082312 | -0.049098 | 0.238410 | 0.001878 | 1.000000 |
| | -1.461198 | -0.869686 | 4.343142 | 0.033224 | ----- |
| | 0.1450 | 0.3851 | 0.0000 | 0.9735 | ----- |

Source: EViews 10, 2024

It can be seen in Table 4.2 that board independence (BI) and audit committee size (ACS) are positively related to the variable FRL. This is shown by the Pearson correlation coefficient (correlation matrix). On the other hand, board size (BS) and board meetings

(BM) are linked to the variable FRL in a negative way. In all, only the variable of board independence (BI) was statistically significant, while the other three variables were statistically insignificant due to their high probability values of 0.41, 0.35, and 0.14, respectively, for ACS, BS, and BM. The result also showed largely low correlation values, meaning that none of the variables are perfectly correlated.

### 4.3 Diagnostic Tests

In this sub-section, five underlying diagnostic tests were conducted to ensure that the basic assumptions underlying regression modelling are not violated. There are several tests we use to check if the model is set up correctly. These are the heteroskedasticity test, the Breusch-Godfrey LM test for serial correlation, the Ramsey RESET test for model (mis)specification, and the JargueBera statistic for normality.

**Table 4.3** ***Results of the VIF Test***

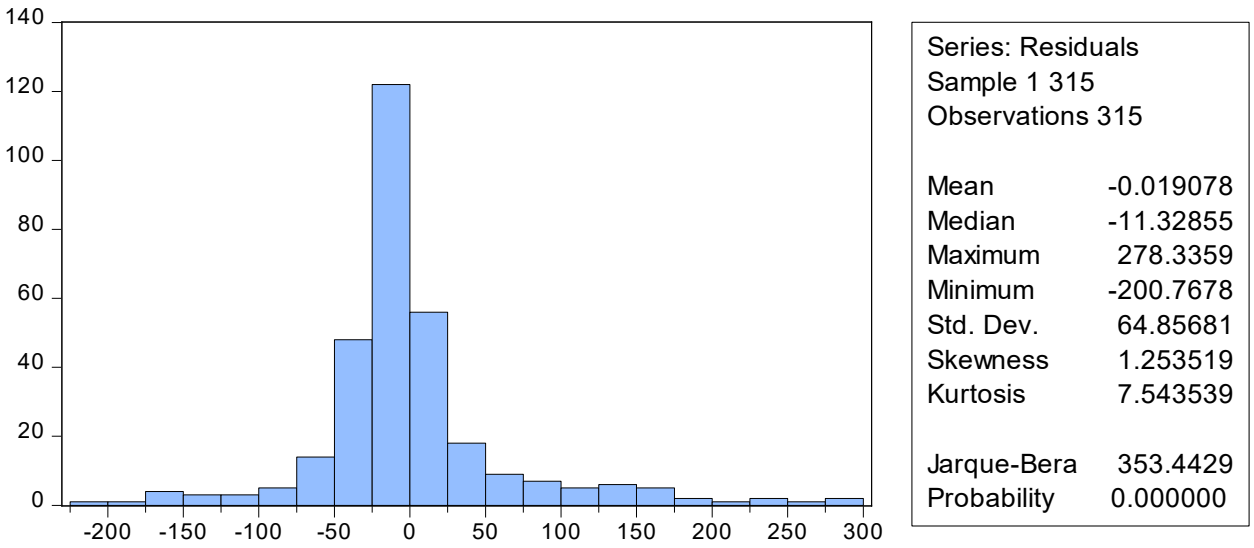
Variance Inflation Factors
Date: 02/02/24 Time: 19:12
Sample: 1 315
Included observations: 315

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|---|---|---|---|
| C | 2617.561 | 124.0277 | NA |
| ACS | 48.36830 | 76.86000 | 1.023581 |
| BS | 2.473555 | 11.88228 | 1.130684 |
| BI | 1028.371 | 18.89973 | 1.069915 |
| BM | 33.10314 | 22.67138 | 1.069141 |

**Source: EViews 10 output (2024)**

The variance inflation factor (VIF) test is presented in Table 4.3. The decision rule is that if each of the explanatory variables has a VIF of less than ten (10), it will be suggestive that it does not correlate with the other independent variables. However, if a variable exhibits a VIF of up to or more than ten (10), then it correlates with another independent variable(s), and as such, it should be dropped. As observed from the table, all the centred VIF values are close to the value of 1 and far below the benchmark value of 10. This is an indication of the absence of multicollinearity issues among the variables. Thus, there is no issue of unstable parameter estimates in the regression line.

**Figure 4.1 Normality *Test***




**Source: EViews 10 (2024)**

As shown in the result of *Figure* 4.1, the histogram is not perfectly bell-shaped symmetrically, indicating that not all the data in the distribution fitted into a normal bell-curve. The observed value of 0.0000 implies that if the variables are taken together, the overall data is not normally distributed. Based on the decision rule, the null hypothesis that the population residual (u) is normally distributed is rejected.

**Table 4.4** ***Diagnostics Test(s) Results***

| **Heteroskedasticity Test: Breusch-Pagan-Godfrey:** | |
|---|---|
| F-statistics | 1.829728 |
| Prob. | 0.0602 |
| **Breusch-Godfrey Serial Correlation LM Test:** | |
| F-statistics | 116.2001 |
| Prob. | 0.000 |
| **Ramsey RESET Test** | |
| F-statistics | 0.003155 |
| Prob. | 0.9552 |

**Source: EViews 10 Output, 2024**

From Table 4.4, the test for heteroscedasticity, which checks for the presence or absence of non-constant variance leading to the breakdown of the blue properties in which the efficiency and consistency properties are lost, was conducted using the Breusch-Pagan-Godfrey test. The decision rule is to conclude that there is no heteroscedasticity if the

corresponding probability value of the F-statistic value is greater than 5%. If that is the case (that is, if the p-value is greater than 5%), we conclude that there is homoscedasticity, which is desirable. As shown in the table, the probability value of 0.602 shows the absence of heteroscedasticity. This means that the residuals of the model are homoskedastic because the p-values are 6% and 18.5%, respectively.

The second layer of the table shows the Breusch-Godfrey Lagrange Multiplier (LM) test for higher-order serial correlation, which checks for serial correlation in both models. The outcome revealed that the hypotheses of zero autocorrelation in the residuals can be rejected. This was because the probabilities (Prob. F, Prob. Chi-Square) were lower than 5%. In the third layer of the table, the outcome of the Ramsey reset test of model specification was reported to test the accuracy of the regression models. The results of the test reported an F-statistic of 0.003155 and a probability value of 0.9552. The performance of the Ramsey RESET test showed high probability values, both greater than 0.05, meaning that there was no significant evidence of misspecification.

### 4.4 Estimation Results

This sub-section presents the regression results conducted using Eviews (version 9) econometric computer software as specified in the previous chapter:

**Table 4.5** ***Regression Result***

Dependent Variable: FRL
Method: ARMA Maximum Likelihood (OPG - BHHH)
Date: 02/02/24 Time: 19:11
Sample: 1 315
Included observations: 315
Convergence achieved after 24 iterations
Coefficient covariance computed using outer product of gradients

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 93.67166 | 64.21349 | 1.458754 | 0.1457 |
| ACS | 1.106986 | 8.932733 | 0.123925 | 0.9015 |
| BS | -3.142077 | 2.178936 | -1.442024 | 0.1503 |
| BI | -123.1599 | 36.24411 | -3.398066 | 0.0008** |
| BM | -6.853996 | 3.834599 | -1.987409 | 0.0449* |

| | | | |
|---|---|---|---|
| R-squared | 0.372847 | Mean dependent var | 119.0730 |
| Adjusted R-squared | 0.360629 | S.D. dependent var | 82.69346 |
| S.E. of regression | 66.12224 | Akaike info criterion | 11.24422 |
| Sum squared resid | 1346622. | Schwarz criterion | 11.32761 |
| Log likelihood | -1763.965 | Hannan-Quinn criter. | 11.27754 |
| F-statistic | 30.51798 | Durbin-Watson stat | 2.157170 |
| Prob(F-statistic) | 0.000000 | | |

Source: EViews 10 output (2024) **, * significant at 1% and 5% respectively

Table 4.6 shows that the models' combined statistical significance can't be thrown out at the 5% level because the f-statistics value is 30.52 and the overall probability value is 0.000 (< 0.01). This is an indication that a linear relationship exists between the dependent and the explanatory variables taken together. The Durbin-Watson value can be

approximated to 2.0 and is indicative of the absence of the problem of multicollinearity in line with Field's (2009) rule of thumb. The result showed a total of about 37.3% in terms of the variations in the dependent variable(s) that the explanatory and control variables together accounted for. The adjusted R-squared, which considers what happens when you add more explanatory variables and degrees of freedom, was 36.1%. This means that the error term took care of the 73.9% of the data that the individual models couldn't explain.

Based on how well each variable did in terms of its statistical significance, it was clear that only BI (board independence) and BM (board meetings) had a significant impact on the dependent variable of financial reporting lag (FRL). The other two independent variables, ACS and BS, did not show any statistical significance. The direction of the contribution of each of the explanatory variables to the behaviour of financial reporting lag (dependent variable) for the period under study is determined by the coefficient's signs and their level of significance. The slope of the coefficients of the independent variables, on the other hand, shows that BS, BI, BM, and the dependent variable (FRL) are all negatively related. The inverse coefficient values of -3.14, -123.16, and -6.85, respectively, demonstrate this. The remaining explanatory variable of ACS (audit committee size) has positive coefficient signs of 1.107 but is not significant. The implication of the result is that, other things being equal, increases in board independence

and board meetings will have significant decreasing effects on financial reporting lag (FRL).

### 4.5 Test of Hypotheses

The four (4) null hypotheses earlier formulated in the first chapter of the study were tested in this sub-section. The t-statistics and probability values of each of the variables were used for the hypothesis testing. The study adopted a 5% (0.05) level of significance under the two-tailed test. The decision rule is to accept the null hypothesis if the probability value (p-value) is greater than 0.05 or when the calculated T-statistic is less than the T-critical value of 2.0.

#### 4.5.1 Test of Hypothesis One

**HO1: Is** there no significant relationship between board independence and the timeliness of financial reporting in Nigeria?

As observed from Table 4.6, the absolute t-statistic value of BI is 3.398, while the p-value of 0.0008 is less than 0.05 (5%). This implies that the relationship between board independence and FRL is statistically significant. Hence, we reject the null hypothesis.

#### 4.5.2 Test of Hypothesis Two

**$H_O$2:** There is no significant relationship between board meetings and the timeliness of financial reporting in Nigeria.

As observed from Table 4.6, the absolute t-statistic value of BM stood at 1.98 (approximately 2.0), while the corresponding p-value of 0.449 is less than 5%. Hence, we reject the null hypothesis that there is no significant relationship between board meetings and the timeliness of financial reporting in Nigeria.

### 4.5.3 Test of Hypothesis Three

**$H_O$3:** There is no significant relationship between board size and the timeliness of financial reporting in Nigeria.

From Table 4.6, it can be observed that the absolute t-statistic values of BS of 1.44 are less than the critical t-value of 2.0, while the probability value of 0.15 (> 0.05) is greater than 5% and considered insignificant. Based on the decision rule, it then means that the relationship between board size and timeliness of financial reporting is non-significant. Hence, null hypothesis three is accepted.

### 4.5.4 Test of Hypothesis Four

**$H_O$4:** There is no significant relationship between audit committee size and the timeliness of financial reporting in Nigeria.

The t-statistic value for ACS is 0.124, which is less than the critical t-value. However, the probability value is 0.9015, which is much higher than 0.05. This means that the test for significance at 5% failed because the p-value was not significant. In line with the decision rule, null hypothesis 4 is accepted. This implies that there is no significant

relationship between audit committee size and the timeliness of financial reporting in Nigeria.

### 4.6 Discussion of Findings

The first hypothesis (Ho1) test result shows that the null hypothesis is not true. This means that board independence has a negative and statistically significant effect on financial reporting lag. The result goes against what Uthman et al. (2018) and Uwuigbe et al. (2018) found when they looked into how corporate governance affected the timely submission of financial reports for listed oil companies (2008–2015) and deposit money banks in Nigeria (2008–2015). They found that board independence does not have a significant effect on the timely submission of financial reports. Similarly, Ibadin et al. (2012) also found that board independence has no significant effect on audit report lag. However, our finding supports Handayani and Yustikasari (2017), who also found that board independence is a significant determinant of the timeliness of financial reporting.

The number of board meetings in a financial year was used to measure board effectiveness in the second hypothesis (Ho2) test. The probability value was lower than the decision rule's 5% threshold, and the board effectiveness variable had a negative coefficient sign. This implies that the number of board meetings has a significant relationship with the financial reporting lag for the period studied. Sharinah et al. (2014) conducted a comparative analysis on the influence of the board on the timeliness of

financial reporting in Malaysia in two different regulatory regimes. They found evidence that audit committee meetings were significantly associated with financial reporting timeliness only before the release of a new CCG in 2007 and became insignificant in the post-adoption periods. The recent results of Onyabe, Okpanachi, Nyor, Onipe, and Mohammed (2018) and Salawu, Okpanachi, and Yahaya (2018) also found that board meetings have a significant effect on audit report lag. The same applied to Al Daoud et al. (2015) and Mohamad-Nor et al. (2010), which found that board meetings have a significant negative influence on audit report lag.

As regard the third hypothesis (Ho3), the results showed that the relationship between board size and financial reporting quality is statistically insignificant. In principle, what this portends is that a larger board size may likely lead to a lower financial reporting lag, although not significantly. Theoretically, the result supports the position of the resource dependency school of thought, which roots for larger boards. Most scholars (for example, Abdurrouf, 2011; Aduda et al., 2013; and Ibadin et al., 2012) have thrown weight behind smaller boards as being more effective in terms of quicker communication, coordination, and decision-making and less conflict of interest. However, Ilaboya and Iyafekhe (2014) recommended a maximum of nine (9) members, while the outcome of the descriptive statistics showed an average of approximately 10 members. On that note, the recent 2020 Code of Corporate Governance has given the board the flexibility to decide the

appropriate number of members and composition it deems fit for the company, depending on size, complexity, and other peculiarities. Empirically, our result on board size is not unrelated to those of Fujianti (2016), Li et al. (2014), and Mohamad-Nor et al. (2010), which found that board size is not significantly associated with financial reporting lag.

We tested hypothesis four (Ho4) and found that the variable ACS (audit committee size) has a positive coefficient sign. However, it did not pass the significance test at any level because the probability value of 90.15% was not significant. This led to the acceptance of the null hypothesis, implying that the influence of audit committee size on financial reporting lag is not statistically significant. This outcome is in line with the results of Wild (2016) and Baxter and Cotter (2009), but is at variance with those by Bonson-Ponte et al. (2008), McGee and Yuan (2011), and Jaggi and Tsui (1999).

# CHAPTER FIVE

## SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

### 5.1 Introduction

This chapter presents a summary of the major findings of the study, from which it draws its conclusions. It also offers recommendations for future researchers.

### 5.2 Summary of Findings

Based on the outcome of the empirical analyses in the previous chapter in relation to the specific research objectives, the major findings from the study are as follows:

1. There is a significant relationship between board independence and the timeliness of financial reporting in Nigeria. This implies that the higher inclusion of non-executive directors on the board leads to a shorter financial reporting lag.
2. There is a significant relationship between board meetings and the timeliness of financial reporting in Nigeria. This means that the board that meets more frequently is strongly associated with a shorter financial reporting lag.
3. The effect of board size on financial reporting lag is statistically insignificant. Thus, there is no impact of board size on the financial reporting lag of listed companies in Nigeria.

4. The impact of audit committee size on financial reporting lag is positive and statistically insignificant. In essence, there is no strong relationship between audit committee size and financial reporting lag in Nigeria.

### 5.3 Conclusion

The study examined the determinants of the timeliness of financial reporting for companies listed on the Nigerian Exchange Group (NGX). Specifically, the study tried to explain whether the four selected corporate governance mechanisms (board independence, board size, board meetings, and audit committee size) are effective in facilitating the timing of financial reporting among Nigerian firms within a five-year period. In order to achieve these objectives, the study sampled a total of sixty-three (63) companies listed on the NGX over the period 2018–2022, amounting to a panel of 315 observations. After running the panel regression, it was found that only board impendence and board meetings are statistically significant. Board size and audit committee size, on the other hand, were not significant factors in determining financial reporting lag during the sampled periods.

### 5.4 Recommendations

1. The study recommends that the management of Nigerian listed companies increase the number of shareholders in the audit committees.

2. Against the backdrop of a negative, insignificant effect of board size on financial reporting lag, coupled with the 2020 Code of Corporate Governance, which allows flexibility in determining the appropriate number of board members a company deems fit, management should maintain a board size that is in tandem with the size of the company.
3. Board independence was found to have a strong, decreasing effect on the timeliness of financial reporting. The study recommends that companies maintain the current proportion of non-executive directors and also ensure that board members with accounting knowledge are in the majority.
4. The board meeting was statistically significant in influencing the timeliness of financial reporting in the study. The study recommends that the board of directors should meet more regularly, although the current average of <4 times is considered sufficient in order to effectively monitor the activities of the management.

## REFERENCES


Abdelsalam, O. H., & Street, D. L. (2007). Corporate governance and the timeliness of corporate internet reporting by U.K. listed companies. *Journal of International Accounting, Auditing and Taxation*, *16*(2), 111–130.

Abdulla, A. (2000). Timeliness of annual report releases and market reaction to earnings announcements in an emerging capital market: The case of China. *Journal of International Financial Management and Accounting*, 11(2), 108-131.

Adebayo, P. A., & Adebiyi, W. K. (2016). Effect of Firm Characteristics on the Timeliness of Corporation Financial Reporting: Evidence from Nigeria Deposit Money Banks, *Iv*(3), 369–381.

Afify, H. A. E. (2009). Determinants of audit report lag. *Journal of Applied Accounting Research*, *10*(1), 56–86.

Agbaje, W.H., & Oladutire, O.E. (2021). Corporate governance and timeliness of financial reporting. *Journal of Management Accounting and Finance, 7*(1)42-61.

Agrawal, A. & Knoeber, C.R. (1996). Firm Performance and Mechanism to Control Agency Problems between Managers and Shareholders. *Journal of Financial and Qualitative Analysis 31(3), 377-397*

Ahmad. A, (2013). Company Attributes and the Timeliness of Financial Reporting in Nigeria. *Business Intelligence Journal*, 5(1), 41-49.

Ahmed, A. & Hassan, S. U. (2011). Does Corporate Governance Affect Earnings Management in Nigeria *Journal of Accounting Research*, 7(2),5-7

Akhor, S.O., & Oseghale, E. O. (2017). An empirical investigation of audit committee attributes and financial reporting lag in Nigeria banking sector. *Journal of Accounting and Financial Management*, *3*(2), 25–38.

Aljifri, K. and Khasharmeh H. (2010). The Timeliness of Annual reports in Bahrain and United Arab Emirates: An Empirical Comparative Study. The International Journal of Business and Finance Research 4(1): 51- 71

Al-Tahat, S. S. Y. (2015). Timeliness of Audited Financial Reports of Jordanian Listed Companies, *3*(2), 39–47.

Announcements in an Emerging Capital Market: The Case of China". Journal of International Financial Management and Accounting, 11(2): 108-131.

Antonelli, Valerio D'Alessio, Raffaele Cuomo, F. (2016). Beyond Stakeholders Theory: Journal of *Reporting and Voluntary Disclosure*,*7*(4), 285–304.

Appah, E., & Emeh, Y. (2013). Corporate Governance Structure and Timeliness of Financial Reports of Quoted Firms in Nigeria. *European Journal of Business and Management*, *5*(32), 34–46.

Ararat, M., Orbay, H. & Yurtoglu, B. B (2010) The Effects of Board Independence in Controlled Firms: Evidence from Turkey, working paper. Pp 142

Ashraf, M., Michas, P. N., & Russomanno, D. (2020). The impact of audit committee information technology expertise on the reliability and timeliness of financial reporting. *The Accounting Review, 95*(5), 23–56. https://doi.org/10.2308/accr-52622

Basuony, M. A. K., Mohamed, E. K. A., Hussain, M. M., & Marie, O. K. (2016). Board characteristics, ownership structure and audit report lag in the Middle East, *7*(2), 181–205.

Baxter, S. & Cotter, S. (2009). Timeliness of corporate financial reporting in emerging capital markets: Empirical evidence from the Zimbabwe stock exchange. *Accounting & Business Research*, 30(3), 241-254.

Belkaoui, A.R. (2012). *Accounting Theory (4th ed.).* London: Thomson Learning.

Benh, B.K., Searcy, D.L. and Woodroof, J.B. (2006). "A within firm analysis of current and expected Future Audit Lag Determinants", Journal of Information Systems, 20(1): 65-86.

Berghe, V. D & Baelden, T. (2015). The complex relation between director independence and board effectiveness. *Journal of Corporate Governance*, 5 (5), 61-83

Brennan, M.J. (1995), 'Corporate Finance Over the Past 25 Years', Financial Management 24, 9-22.

Brown, P., Dobbie, G. W., & Jackson, A. B. (2011). Measures of the timeliness of earnings. *Australian Accounting Review*, 21(3), 222- 234.

Bryant-Kutcher, L. E., Yang Peng, k. Z. (2006). The Impact of the Accelerated Filing Deadline on Timeliness of 10-K Filings., (January).

Butler, M., Kraft, A., & Weiss, I. (2007). The effect of reporting frequency on the timeliness of earnings: The cases of voluntary and mandatory interim reports. Journal of Accounting and Economics, 43(2-3), 181-217.

Clatworthy, E., Mark A and Peel, M. J. (2010). Timeliness of Financial Reporting? Evidence from UK Private Companies 2(1), 101– 123.

Courtis, A. (2016). Relationship between Corporate Attributes and Timeliness in Corporate Reporting: *Malaysian Evidence. Jurnal Teknologi (Social Sciences),* 64(2), 115-119.

Efobi, U., & Okougbo, P. (2015). Timeliness of Financial Reporting in Nigeria, (January 2014). https://doi.org

Engel, A. (2012). The effect of regulation on timeliness of corporate financial reporting: Evidence from Bangladesh. *JOAAG,* 1(1), 15-35.

Fakhfakh, A. J. (2016). Audit Reports Timeliness: Empirical Evidence from Jordan. *Procedia - Social and Behavioral Sciences*, 2(1), 1 – 13

Freeman RE. (1984). Strategic management: A stakeholder approach. Boston, Pitman Publishing Inc.

Fujianti, L. (2016). Analysis Market Reaction on Timeliness Reporting : Study on Indonesia Stock Exchange, *5*(3), 1–10.

Garkaz, M., Abdollahi, A., Niknam, S., & Branch, G. (2016). Studying the Effect of the Board Characteristics on the Timeliness of Financial Reporting of Listed Companies In Tehran Stock exchange, *1*(1), 32–37.

Ghafran, C., & Yasmin, S. (2018). Audit committee chair and financial reporting timeliness: A focus on financial, experiential and monitoring expertise. *International Journal of Auditing, 22*(1), 13–24. https://doi.org/10.1111/ijau.12101

Gilling. C. (2017). Survey on Timeliness of Quarterly Reports by Malaysian Listed Companies. International Conference on Corporate Governance of Reporting, Kuala Lumpur. Pp 231

Givoly, F. & Palmo, D. (2012). Timeliness of annual earnings announcements: Some empirical evidence. *Journal of Accounting Review*, 57(3), 486-508.

Habbash, M. (2010). "The Effectiveness of Corporate Governance and External Audit on Constraining Earnings Management Practices in the UK", Ph.D. thesis, Durham University. http://ethesis.dur.ac.uk/448

Harrison, J. S., Freeman, R. E., & Sa de Abreu, M. C. (2015). Stakeholder Theory As an Ethical Approach to Effective Management : applying the theory to multiple contexts, *17*(55), 858–869.

Hashim, U. J. B., & Abdul Rahman, R. B. (2011). Board independence, board diligence, board expertise and impact on audit report lag in Malaysian market. *Finance and Corporate Governance Conference*, 3, 1 – 22.

Haw, I., Qi, D. Wu, W. (2000). Timeliness of Annual Report Releases and Market Reaction to Earnings

Hussaini, D. & Tivde, K.J. (2023). Effect of corporate governance attributes on financial reporting timeliness of listed companies in Nigeria. *UMM Journal of Accounting and Financial Management (UMMJAFM), 3*(1), 103-123.

Ibadin, A & Dabor, R. (2015). The timeliness of quarterly financial reports of companies in Malaysia. Asian Review of Accounting, 12(1), 1-18.

Ibadin, I. M., Izedonmi, F., & Ibadin, P. O. (2012). Research Journal of Finance & Accounting. *Research Journal of Finance and Accounting*, *3*(9), 137–144.

Ilaboya, & Christian, I. (2014). Corporate governance and audit report lag in Nigeria. *Asian Academy of Management Journal of Accounting and Finance*, *4*(13), 57–84.

Ismail, A. & Chandler, S. (2014). The auditors' review report. *Managerial Auditing Journal*, 13(8), 448-544.

Iyoha, F., (2012). Company Attribute and the Timeliness of Financial reporting in Nigeria.

Jenfa, B.I. (2000). Elements of Professionalism and Practice of Accountancy. Jos: Ehindero Nig. Ltd.

Jensen, M.C. and W.H. Meckling. (1976), 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure', *Journal of Financial Economics* 3 (4), 305-360.

Johari, N. H, Saleh, N. M., Jaafar, R & Hassan, M. S. (2014). The Influence of Board Independence, Competency and Ownership on Earnings Management in Malaysia. International Journal of Economics and Management 2(2): 281 – 306

Kakabadse, N. K, Yang, H. & Sanders, R. (2010). The effectiveness of non-executive directors in Chinese state-owned enterprises. Management Decision Vol. 48 No. 7, pp. 1063-1079

Kamran, A., (2013). "The Timeliness of Corporate Reporting: A Comparative Study of South Asia", *Advances in International Accounting*, Volume 16: 17–43.

Ku-Ismail, K. (2014). The usefulness of quarterly financial reporting in Malaysia. Unpublished doctoral thesis, Cardiff University, Wales.

Li, D., & Liu, J. (2014). Dynamic Capabilities, Environmental Dynamism, and Competitive Advantage: Evidence from China. Journal of Business Research, 67(1), 2793-2799.doi:10.1016/j.jbusres.2012.08.007

Li, Y., D. Zhang., and X. Wang. (2014). The Influence of Corporation Governance Structure on Internal Control Audit Report Lag: Evidence From China. *Accounting & Taxation*, *6*(2), 101–115. Retrieved from www.theIBFR.org

McGee, R. W., & Yuan, X. (2012). Corporate governance and the timeliness of financial reporting: a comparative study of the People's Republic of China, the USA and the European Union. *Journal of Asia Business Studies*, *6*(1), 5–16.

Modugu, P.K., Eragbhe, E. and Ikhatua, O.J. (2012). "Determinants of Audit Delay in Nigeria Companies: Empirical Evidence", *Research Journal of Finance and Accounting,* 3(6): 46-55.

Mohamad-Nor, M. N., Rohami, S., & Wan-Hussin, W. N. (2010). Corporate governance and audit report lag in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, *6*(2), 57–84.

Nehme, R., Assaker, G., & Khalife, R. (2015). Dynamics of audit lag − Board of directors and audit committees' effect. *Corporate Ownership and Control*, *1*(3), 281–294.

Nelson, S. P., & Shukeri, S. N. (2015). *Corporate Governance and Audit Report Timeliness Evidence from Malaysia Accounting in Asia*. *Research in Accounting in Emerging Economies,* 1(1), 23 - 45

Nowak, M. & McCabe, M. (2017). The independent director on the board of company directors. Managerial Auditing Journal, Vol. 23 No. 6, pp. 545-566

Oladipupo, E. & Izedomi, H. (2013). Theory of the firm: Managerial behavior, agency cost and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.

Saidi, N. (2011) 'Corporate governance in the GCC: what has been done & what remains', Qatar Business Review Magazine, November, pp.11–13.

Shukeri, S. N., & Islam, M. A. (2012). The Determinants of Audit Timeliness: Evidence from Malaysia. *Journal of Applied Sciences Research*, *8*(7), 3314–3322.

Thangavelu, P. (2015) retrieved from: http://www.investopedia.com/articles/personal-finance/070715/insurance-companies-vs-banks-separate-a

Thisday online news paper (2017) retrieved on 23/09/2023 from: http://www.thisdaylive.com

Turel, A. (2010). Timeliness of financial reporting in emerging capital markets: Evidence from Turkey. Istanbul University Journal of the School of Business Administration, 39(2), 227-240.

Vafeas, L. (2012). Audit report lag, audit partner rotation and audit firm rotation: Evidence from Australia. *Social Science Research Network, Citations* 1, 1-32.

Vanguard online newspaper, (2017) retrieved on 25/09/2023 from: http://www.vanguardngr.com/2007/06/15-companies-flout-nses-financial-reporting-requirements/amp/

Vuran, G. & Adiloğlu, K. (2013). Advanced accounting (2nd ed.). Hoboken: John Wiley & Sons. Pp 23 - 47

Wicks, A.C., and Parmar, B. (2004). Stakeholder Theory and The Corporate Objective Revisited. Organization Science, 15(3) 364–369.

Wild, R. J. (2016). Timeliness of Financial Reporting: An Empirical Study in Indonesia Stock Exchange. *IJAR*, 14(3).

Wooi, H. C & Ming, T. C (2009). Directors' Pay-Performance: A Study on Malaysian Government Linked Companies. CenPRIS Working Paper No. 110/09, Universiti Sains Malaysia. Pp 24 -43

Wu, C.-H., Wu, C.-S., & Liu, V. W. (2008). The release timing of annual reports and board characteristics. *The International Jounal of Business and Finance Research*, *2*(1), 103–119.

Xie, S. (2013). Determinants of timeliness of corporate disclosure of selected companies in India. *Journal of Accounting Research*, 7(4), 28-63.

Yunos, R. M. (2011). The effect of ownership concentration, board of directors, audit committee and ethnicity on conservative accounting: Malaysian evidence (Doctoral thesis). School of Accounting, Finance and Economics Faculty of Business and Law, Australia.

## APPENDIX (RESULTS)

Dependent Variable: FRL
Method: ARMA Maximum Likelihood (OPG - BHHH)
Date: 02/02/24 Time: 19:11
Sample: 1 315
Included observations: 315
Convergence achieved after 24 iterations
Coefficient covariance computed using outer product of gradients

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 93.67166 | 64.21349 | 1.458754 | 0.1457 |
| ACS | 1.106986 | 8.932733 | 0.123925 | 0.9015 |
| BS | -3.142077 | 2.178936 | -1.442024 | 0.1503 |
| BI | -123.1599 | 36.24411 | -3.398066 | 0.0008 |
| BM | -6.853996 | 3.834599 | -1.987409 | 0.0449 |

| | | | |
|---|---|---|---|
| R-squared | 0.372847 | Mean dependent var | 119.0730 |
| Adjusted R-squared | 0.360629 | S.D. dependent var | 82.69346 |
| S.E. of regression | 66.12224 | Akaike info criterion | 11.24422 |
| Sum squared resid | 1346622. | Schwarz criterion | 11.32761 |
| Log likelihood | -1763.965 | Hannan-Quinn criter. | 11.27754 |
| F-statistic | 30.51798 | Durbin-Watson stat | 2.157170 |
| Prob(F-statistic) | 0.000000 | | |

| | |
|---|---|
| Inverted AR Roots | .59 |

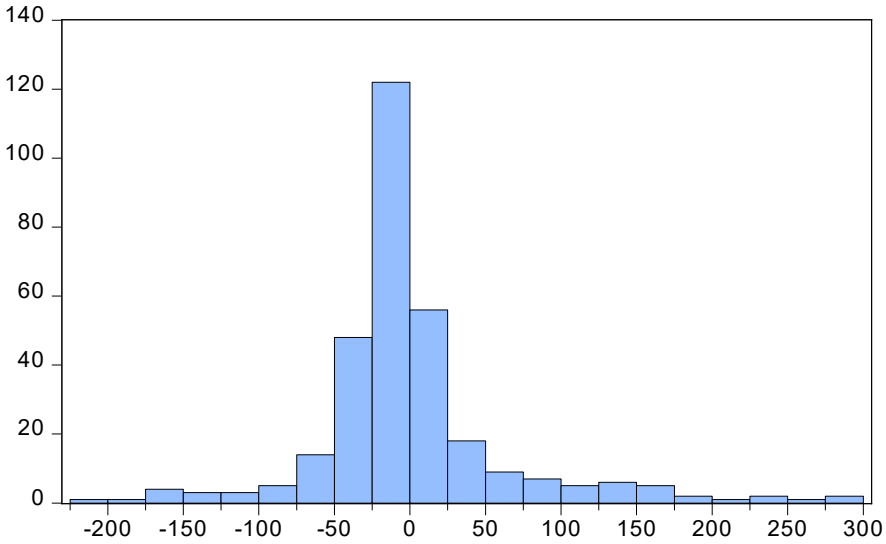
| | FRL | ACS | BS | BI | BM |
|---|---|---|---|---|---|
| Mean | 119.0730 | 5.752381 | 9.577778 | 0.604906 | 3.711111 |
| Median | 88.00000 | 6.000000 | 9.000000 | 0.600000 | 4.000000 |
| Maximum | 399.0000 | 7.000000 | 19.00000 | 0.900000 | 9.000000 |
| Minimum | 28.00000 | 4.000000 | 4.000000 | 0.000000 | 1.000000 |
| Std. Dev. | 82.69346 | 0.669361 | 3.110924 | 0.148415 | 0.826918 |
| Skewness | 2.224014 | -2.028380 | 0.706452 | -0.598034 | 0.443838 |

| | | | | | |
|---|---|---|---|---|---|
| Kurtosis | 6.812223 | 5.763939 | 2.958097 | 4.218988 | 8.569806 |
| Jarque-Bera | 450.4238 | 316.2686 | 26.22443 | 38.27918 | 417.5155 |
| Probability | 0.000000 | 0.000000 | 0.000002 | 0.000000 | 0.000000 |
| Sum | 37508.00 | 1812.000 | 3017.000 | 190.5452 | 1169.000 |
| Sum Sq. Dev. | 2147197. | 140.6857 | 3038.844 | 6.916526 | 214.7111 |
| Observations | 315 | 315 | 315 | 315 | 315 |

Covariance Analysis: Ordinary
Date: 02/02/24 Time: 19:13
Sample: 1 315
Included observations: 315

| Correlation<br>t-Statistic<br>Probability | FRL | ACS | BS | BI | BM |
|---|---|---|---|---|---|
| FRL | 1.000000<br>-----<br>----- | | | | |
| ACS | 0.046587<br>0.825096<br>0.4099 | 1.000000<br>-----<br>----- | | | |
| BS | -0.052964<br>-0.938344<br>0.3488 | 0.065866<br>1.167826<br>0.2438 | 1.000000<br>-----<br>----- | | |
| BI | 0.154685<br>2.770005<br>0.0059 | -0.098160<br>-1.745059<br>0.0820 | 0.221295<br>4.014639<br>0.0001 | 1.000000<br>-----<br>----- | |
| BM | -0.082312 | -0.049098 | 0.238410 | 0.001878 | 1.000000 |

| | | | | | |
|---|---|---|---|---|---|
| | -1.461198 | -0.869686 | 4.343142 | 0.033224 | ----- |
| | 0.1450 | 0.3851 | 0.0000 | 0.9735 | ----- |




Series: Residuals
Sample 1 315
Observations 315

| | |
|---|---|
| Mean | -0.019078 |
| Median | -11.32855 |
| Maximum | 278.3359 |
| Minimum | -200.7678 |
| Std. Dev. | 64.85681 |
| Skewness | 1.253519 |
| Kurtosis | 7.543539 |
| Jarque-Bera | 353.4429 |
| Probability | 0.000000 |

Variance Inflation Factors
Date: 02/02/24 Time: 19:12
Sample: 1 315
Included observations: 315

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|---|---|---|---|
| C | 2617.561 | 124.0277 | NA |
| ACS | 48.36830 | 76.86000 | 1.023581 |
| BS | 2.473555 | 11.88228 | 1.130684 |
| BI | 1028.371 | 18.89973 | 1.069915 |
| BM | 33.10314 | 22.67138 | 1.069141 |

Breusch-Godfrey Serial Correlation LM Test:

| | | | |
|---|---|---|---|
| F-statistic | 85.83196 | Prob. F(2,307) | 0.0000 |
| Obs*R-squared | 112.6103 | Prob. Chi-Square(2) | 0.0000 |

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 02/02/24 Time: 19:07
Sample: 1 315
Included observations: 314
Presample and interior missing value lagged residuals set to zero.

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 15.97680 | 41.19755 | 0.387809 | 0.6984 |
| ACS | -3.997908 | 5.618085 | -0.711614 | 0.4772 |
| BS | -0.089450 | 1.272318 | -0.070305 | 0.9440 |
| BI | 31.85247 | 26.09114 | 1.220816 | 0.2231 |
| BM | -3.067238 | 4.641087 | -0.660888 | 0.5092 |
| RESID(-1) | 0.507516 | 0.056452 | 8.990227 | 0.0000 |
| RESID(-2) | 0.145455 | 0.057272 | 2.539728 | 0.0116 |

| | | | |
|---|---|---|---|
| R-squared | 0.358631 | Mean dependent var | -2.66E-14 |
| Adjusted R-squared | 0.346097 | S.D. dependent var | 81.10598 |
| S.E. of regression | 65.58578 | Akaike info criterion | 11.22664 |
| Sum squared resid | 1320559. | Schwarz criterion | 11.31022 |
| Log likelihood | -1755.582 | Hannan-Quinn criter. | 11.26003 |
| F-statistic | 28.61065 | Durbin-Watson stat | 1.994610 |
| Prob(F-statistic) | 0.000000 | | |

Heteroskedasticity Test: Breusch-Pagan-Godfrey

| | | | |
|---|---|---|---|
| F-statistic | 2.677359 | Prob. F(4,309) | 0.0320 |
| Obs*R-squared | 10.51819 | Prob. Chi-Square(4) | 0.0325 |
| Scaled explained SS | 29.10358 | Prob. Chi-Square(4) | 0.0000 |

Test Equation:

Dependent Variable: RESID^2
Method: Least Squares
Date: 02/02/24 Time: 19:07
Sample: 1 315
Included observations: 314

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -17184.85 | 9748.239 | -1.762867 | 0.0789 |
| ACS | 1910.831 | 1325.096 | 1.442032 | 0.1503 |
| BS | -70.46400 | 301.2897 | -0.233875 | 0.8152 |
| BI | 18294.39 | 6117.334 | 2.990582 | 0.0030 |
| BM | 634.7007 | 1096.212 | 0.578995 | 0.5630 |

| | | | |
|---|---|---|---|
| R-squared | 0.033497 | Mean dependent var | 6557.231 |
| Adjusted R-squared | 0.020986 | S.D. dependent var | 15700.09 |
| S.E. of regression | 15534.47 | Akaike info criterion | 22.15531 |
| Sum squared resid | 7.46E+10 | Schwarz criterion | 22.21501 |
| Log likelihood | -3473.383 | Hannan-Quinn criter. | 22.17916 |
| F-statistic | 2.677359 | Durbin-Watson stat | 0.936700 |
| Prob(F-statistic) | 0.031954 | | |

Ramsey RESET Test
Equation: UNTITLED
Specification: FRL C ACS BS BI BM
Omitted Variables: Squares of fitted values

| | Value | df | Probability |
|---|---|---|---|
| t-statistic | 0.707801 | 308 | 0.4796 |
| F-statistic | 0.500982 | (1, 308) | 0.4796 |
| Likelihood ratio | 0.510327 | 1 | 0.4750 |

F-test summary:

| | Sum of Sq. | df | Mean Squares |
|---|---|---|---|
| Test SSR | 3343.611 | 1 | 3343.611 |
| Restricted SSR | 2058970. | 309 | 6663.335 |
| Unrestricted SSR | 2055627. | 308 | 6674.113 |

LR test summary:

| | Value |
|---|---|
| Restricted LogL | -1825.314 |
| Unrestricted LogL | -1825.058 |

Unrestricted Test Equation:
Dependent Variable: FRL
Method: Least Squares
Date: 02/02/24 Time: 19:08
Sample: 1 315
Included observations: 314

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 65.33805 | 53.71183 | 1.216455 | 0.2247 |
| ACS | -9.011137 | 25.40172 | -0.354745 | 0.7230 |
| BS | 2.286917 | 6.419184 | 0.356263 | 0.7219 |
| BI | -100.3775 | 283.9001 | -0.353566 | 0.7239 |
| BM | 5.622388 | 17.37474 | 0.323595 | 0.7465 |
| FITTED^2 | 0.008540 | 0.012065 | 0.707801 | 0.4796 |

| | | | |
|---|---|---|---|
| R-squared | 0.040920 | Mean dependent var | 119.2707 |
| Adjusted R-squared | 0.025351 | S.D. dependent var | 82.75087 |
| S.E. of regression | 81.69524 | Akaike info criterion | 11.66279 |
| Sum squared resid | 2055627. | Schwarz criterion | 11.73444 |
| Log likelihood | -1825.058 | Hannan-Quinn criter. | 11.69142 |
| F-statistic | 2.628221 | Durbin-Watson stat | 0.840053 |
| Prob(F-statistic) | 0.024036 | | |