AUDIT QUALITY AND CONCEPT OF GOING CONCERN IN QUOTED NON-FINANCIAL FIRMS IN NIGERIA

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JULY, 2021

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BEING A THESIS PRESENTED TO DEPARTMENT OF ACCOUNTING MALLAM SANUSI LAMIDO SANUSI COLLEGE OF BUSINESS AND MANAGEMENT STUDIES, IN PARTIAL FULFULIMENT OF REQUIREMENT FOR THE AWARD OF DOCTOR OF PHILOSOPHY (Ph.D.) DEGREE IN ACCOUNTING IGBINEDION UNIVERSITY, OKADA, EDO STATE, NIGERIA.

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JULY, 2021

# DECLARATION

I Imade Taye Peter, do hereby declare that the composition of this thesis is entirely my own work. The work embodied in this thesis has not been submitted for any degree, and is not currently being submitted for any other degree. All references made of other persons have been duly acknowledge.

……………………………………… ………………… IMADE TAYE PETER DATE

# DEDICATION

This thesis is dedicated to God Almighty who gave me the strength, wisdom, and inspiration to complete this work; and also, my late Father Chief Obaiogbo Imade and my late elder brother

Mr Fransis Imade. For my up bringing.

# CERTIFICATION

We certify that this thesis was carried out by **IMADE, TAYE PETER** in the Department of Accounting, College of Business and Management Studies of Igbinedion University, Okada, Edo State.

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# ABSTRACT

The objective of the study is to examine audit quality and concept of going concern in quoted non- financial companies in Nigeria. Arguments abound that going concern opinion is issued if auditors have a doubt about financial condition of a company. However, provision of going concern audit opinion may worsen the company in terms of gaining public trust and may even indicate bankruptcy, and that is why this study aims to explore audit quality attributes that affect auditor’s going concern opinion. Based on the principal-agent theory we employ audit quality proxies which include Audit Firm Size, Audit Tenure, Audit Fee, Joint Audit, and Audit Delay also representing the independent variables and Altman Z scores index (dependent variable) as proxy for accounting going concern. This study employed secondary data obtained from related companies annual reports published by the Nigerian Stock Exchange. The population of this study includes all non- financial companies listed on the floor of the Nigerian stock exchange market during a 10year period ie between 2011 and 2020. The sample after adopting Krejcie and Morgan sample size computation technique consist of 84 companies. In this study, three econometric models which relates to firms belonging to qualified audit opinion, unqualified audit opinion and a combination of both were specified. The collated data set were analysed using binary logistic and least square dummy variable regression estimation technique performed in statistical analysis software, Stata

16.0. The results indicate that audit firm size, audit tenure, and audit fee have statistically significant effect on going concern concept. However, joint audit and audit delay show no statistically significant effect on going concern concept of listed non-financial firms in Nigeria during the period under review. Based on the study outcome, the need to hire audit services provided by big four audit firms such as Akintola Williams (Deloitte), Ernst & Young, KPMG, and Price Waterhouse Coopers is recommended. Such audit firms with international affiliation are associated with higher quality, hence will strive to maintain the quality of its audit so it does not lose the trust of clients and ultimately help the firm maintain unqualified audit opinion position. We also recommend that Enlonged tenure system for engaged audit firms should be considered. We find that such policies when implemented will provide brighter chances to the audited firm to get an unqualified audit opinion. This is enabled from the fact that the engaged auditor is given apple time to understand the clients’ firm better and more comprehensively. A review of higher service fee (audit fee) paid to engaged auditors should be considered if possible reviewed downwards. We find that higher audit fee paid by these firms to these auditors erodes the independence of the auditor thereby making the auditors prone to bias judgement which eventually erodes the company’s going concern status. Corporate policies that may provide for joint audit services should be less considered. Instead, more attention should be paid to hiring the services of Big four audit firms as this has been empirically proven to be a tool for improving financial statement quality. Although the variable of audit delay reveals an insignificant effect on accounting going concern concept, we still recommend that best practice rule should be enforced. Auditor should be able to give opinion on the financial statement within the regulatory framework of 90 days after which the directors signed.

**Keywords:** Audit Quality, Going Concern concept, Logistic Regression, Altman Z score Audit Firm Size, Audit Tenure, Audit Fee, Joint Audit, Audit Delay*.*

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# CHAPTER ONE INTRODUCTION

* 1. **Background to the study**

Audit quality is the process of systematic examination of a quality system carried out by an internal or external auditor of an organisation. The auditors firm size, auditors tenure, auditors fees, Joint audit and Audit report lag are measure of audit quality. The purpose of an audit is to enhance the degree of confidence of intended users of the financial statements and that is achieved by auditors gathering sufficient and appropriate audit evidence in order to express an opinion on whether the financial statements are prepared, in all material respects, in accordance with the applicable financial reporting framework.

As a result of financial scandals in major corporations, such as Enron, WorldCom and other world class companies; audit quality has gained increased concerns. The aftermath of these scandals has led to the identification of a perceived expectation gap in audit quality as many users of audited financial statements have different expectations of the audit function culminating to a call for changes in the auditing profession so as to ensure improved audit quality (Kida, 1980). For instance, the auditor has the responsibility to assess whether there is any doubt to his or her opinions on the financial report, based on auditor’s regulations and also required to provide an opinion regarding the corporations’ ability to survive (going concern) in period of not more than one year from the date of the audit report (Jeong, & Rho, 2004). This suggests that independent auditors have been charged with the responsibility of warning investors when there are doubts about the continuity of a company (Johnson, Khurana & Reynold 2002). This is in line with the rationale that the audit profession evaluates the going-concern assumption and provide users of

financial statements with an early warning of potential financial problems. The audit opinion may provide particularly useful information, given the auditor’s intimate knowledge of the client’s activities and future plans (Jose & Ramon, 2015).

Financial report is the main source of information to all parties who have interest in a company. Hence, Wulandari (2014) stated that financial report should picture the financial position of the company. Furthermore, Alichia (2013) also emphasized that through financial report, we can get a picture on the life of a company, whether it is in a good condition or it has a tendency to go bankrupt. However, in order for the financial statement to be trustworthy and reliable, the auditor (especially the external auditor) is required to make a statement on it. In performing its duties, the auditor expresses an opinion on the fairness, in all material respects, the financial position, result of operations, changes in equity and cash flows in accordance with International Financial Reporting Standard (IFRS).

In addition to providing information about the fairness of the financial statements, the independent auditor’s report also provides information to users of financial statements regarding the company’s ability to continue its business (going concern). Going concern is also called continuity assumption (Syahrul, 2000). Going concern opinion is very influential for all users of financial statements to make the right decisions in investing, because when an investor intends an investment, he needs to know the financial condition of the company, especially concerning the survival of the firm (Hany & Mukhlasin, 2003). Problems arise when errors are made by the auditors’ opinion regarding the company’s going concern (Barry, 2003). But the major problem about this is the issue of self-fulfilling prophecy which states that if the auditor gives going concern opinion, the company would be quickly bankrupt because many investors or creditors may cancel attractive

investment funds (Venuti, 2007). In the light of the above stated importance of obtaining the opinion of the external auditor, this particular study is focused on audit qualities such as Audit firm size, Audit Tenure, Audit fee, Joint audit and Audit report lag as they affect accounting going concern value of listed Non-Financial companies in Nigeria.

# Statement of the Problem

The auditor is required to provide an opinion regarding the company’s ability to survive (going concern). Going concern audit opinion is the auditor’s opinion that has been issued to ascertain whether companies can maintain their life or not. In other words, companies that get a going concern audit opinion cannot continue their business sustainability. The spate of audit failure in the world (Nigeria inclusive), has brought great disappointment to the users of financial reports which makes audit quality the subject of focus in this study. The important factors that are considered in this study includes; auditors’ Firm Size, Auditors’ Tenure, Audit Fees, Joint Audit and Audit Report Delay as measures of audit quality and how these factors sway the firm into financial distress or out of financial distress.

Previous studies on auditors’ decisions in this arena has concluded that financial-based bankruptcy prediction models are more accurate than auditors’ opinions in classifying companies as being bankrupt (Altman & McGough, 1974; Altman, 1982; Levitan & Knoblett, 1985; Koh & Killough, 1990). These empirical evidences have served to direct criticism at the audit profession for not providing adequate early warning signals of impending client failure. The financial press, regulators and the public view the issuance of an unqualified audit report to a company that subsequently files for bankruptcy as an indicator of poor-quality audit work. Accordingly, auditors

have been considerably criticized for their inability to detect troubled companies or for their reluctance to disclose going-concern uncertainties in the audit report.

However, the purpose of this study is to determine how audit quality affects auditor decision- making process which may lead the firm to become either financially distressed or financially healthy by employing listed non-financial companies in Nigeria. Conducting this study for listed non-financial companies in Nigeria is relevant as the Nigerian audit market is quite different from most audit markets around the world from which most of the existing empirical audit quality literature originates. Furthermore, we find that most prior related studies tend to examine how audit quality affects firm financial performance Musa and Shehu, (2014); Amahalu and Beatrice, (2017); Egbunike and Abiahu (2017) by employing key performance variables like Return on Asset or Return on Equity while neglecting going concern status which is capable of signaling a distress situation of these corporations.

In Nigeria most quoted companies employ the services of the leading big four audit services firms; Deloiotte and Touche, Klynveld Peat Marwick Goerdeler (KPMG), Price Water House Cooper (PWC) and Ernest and Young (EY) who charge higher audit fee when compared to 2nd tier audit firms. However, despite the fact that the above list of auditors’ exercises perceived higher audit independence in the course of carrying out their duties, previous related studies have revealed the presence of an expectation gap, an important difference between the role currently perceived/achieved by auditors and the role expected of them.

Much more, extant literature document that fees paid to auditors can affect audit quality in two ways: large fees paid to auditors may increase the effort exerted by auditors, hence, increase audit quality. Alternatively, large fees paid to auditors, particularly those that are related to non-audit

services, make auditors more economically dependent on their clients. Such financial reliance may induce a relationship whereby the auditor becomes reluctant to make appropriate inquiries during the audit for fear of losing profitable fees (Hoitash, Markelevich & Barragato 2007). Furthermore, Onaolapo, Ajulo and Onifade (2017) noted that economic conditions in Nigeria exposes external auditors to more difficult judgments in areas such as assessing going concern, impairments of assets and fair values which culminates into increased man hour spent on an audit exercise leading to increased audit fee.

Mgbame, Eragbha and Osazuwa, (2012); Myers, Myers and Omer s(2003) have attempted to analyze some explanatory variables for the state of audit quality which accounts for a firms’ going concern status. However, the take home from these studies reveals that auditor tenure is much on the lime light. The question is that should a firm replace its auditors on a regular basis, or should the auditor be allowed to build a long-term relationship with the client? Clearly, the bulk of prior related literature have connected poor audit quality to elongated audit firm tenure of which creative accounting is employed as a significant operating tool. However, within the Nigeria audit scope, not much studies have been done to explore the effect of audit tenure on accounting going concern which this study is positioned to answer. Far beyond these, the need for joint auditing together with reducing audit reporting lag have also been strongly emphasized in literature (Sormunen, & Laitinen 2012; Geiger & Kumas 2018; Brydon, 2019).

Another key motivation for this study, is the belief that firms are listed on the stock exchange, but do operate under varying circumstances at every point in time. While some of them may be financially healthy others may be financially distressed while the third group may just be at some point where their position is quite unclear (Gray). Hence, in these varying circumstances, it will

be plausible to believe that external auditor’s response to clients (in terms of evaluating their financial statement) under certain conditions will differ. Consequently, it will be scientifically applaudable to evaluate auditor’s response to clients going concern position at such different situations including; financially distressed positions as well as financially healthy positions so as to provide specific recommendations which extant related studies have failed to incorporate. Hence, it is against these backdrop that this study attempts to examine the effect of audit quality (audit firm size, audit fee, audit tenure, joint audit and audit report lag) on accounting going concern of listed non-financial firms in Nigeria.

* 1. **Objective of the Study**

The broad objective of this study is to investigate the effect of audit quality on Concept of going concern of listed non-financial firms in Nigeria. However, the specific objectives are to;

* + 1. Evaluate the effect of audit firm size on going concern concept of listed non-financial companies in Nigeria.
    2. Determine the influence of audit fee on going concern concept of listed non-financial companies in Nigeria.
    3. Examine the impact of audit tenure on going concern concept of listed non-financial companies in Nigeria.
    4. Access the effect of joint audit on going concern concept of listed non-financial companies in Nigeria
    5. Verify the effect of audit report lag on going concern concept of listed non-financial companies in Nigeria.
  1. **Research Questions**

The following are the questions which this study intends to answer

* + 1. How does audit firm size have effect on going concern concept of listed non-financial companies in Nigeria?
    2. What magnitude of influence does audit fee have on going concern concept of listed non- financial companies in Nigeria?
    3. To what extent of impact does audit tenure have on going concern concept of listed non- financial companies in Nigeria?
    4. How does joint audit on going concern concept of listed non-financial companies in Nigeria?
    5. To what degree does audit report lag influence going concern concept of listed non- financial companies in Nigeria?

# Research Hypotheses

Based on the forgoing objectives as well as questions the study is poised to test the following related null hypotheses;

Ho1. Audit firm size has no significant effect on going concern concept of listed non-financial companies in Nigeria.

Ho2. Audit fee has no significant effect on going concern concept of listed non-financial companies in Nigeria

Ho3. Audit tenure has no significant effect on going concern concept of listed non-financial companies in Nigeria

Ho4. Joint audit has no significant effect on going concern concept of listed non-financial companies in Nigeria

Ho5. Audit report lag has no significant effect on going concern concept of listed non-financial companies in Nigeria

* 1. **Scope of study**

The aim of this study is to examine the effect of audit quality on going concern concept of listed non-financial firms in Nigeria. The scope of this study is restricted to the application of Altman’s Z-Score models in measuring auditor’s going concern decision in Nigeria. The scope of this study also covers all non-financial companies whose financial statements are publicly available, and data set in relation to audit firm size (Big 4), Audit fee, Audit Tenure, joint audit and audit report lag. The period covers 2011 to year 2020 fiscal years when there where a total of 108 listed non- finasncial firms in Nigeria (Nigerian Stock Exchange fact book, 2020).

# Limitation of the Study

The population size of the study is made up of 108 listed non-financial firms, the sample size is

84. However, to obtained a homogenous sample, we deselect 9 firms that: (a) Did not provide complete annual report information or didn’t disclose the necessary information needed for this study and (b) non-financial firms that were listed after year 2011. Hence, the final sample size which we employ for this study is 75 non-financial firms listed on the floor of the Nigerian stock exchange market during the period 2011 to 2020.

* 1. **Significance of the Study**

The findings of this study will be beneficial to the following group of people;

# Shareholders/Stakeholders

This study will benefit shareholders since it is posed to help them understand going concern concept of the firms under consideration, hence, making them realize their investment choices. The models developed would enable stakeholders such as management of listed non-financial companies, and policymakers of the companies detect failure signals before the potential business failure hence take corrective measure.

# Corporate Managers

The outcome of the study will serve as a signal for corporate managers in monitoring their firms’ going concern as this might provide an early warning signal for corporate bankruptcy.

# Suppliers/Creditors & Investors

Suppliers and creditors who are also considered as close associates or trade creditors would also benefit from the findings of this study. The bankruptcy prediction models developed in this study will provide additional information for these trade creditors to understand the going concern of the companies hence decide on the credit policy to accept. Furthermore, investors will be able to evaluate questionable going concern firms on the basis of firms’ operating performance and will be able to investigate firms’ corporate governance practices as to whether or not they are in accordance with the law.

# Government and Regulators

The findings from this study will enable the government know where to pay special attention such as the non-financial sector, and most especially the manufacturing industry. This knowledge will enable them know where to channel their tax incentives, and infrastructural facilities so as to reduce the likelihood of bankruptcy in the sector. This study outcome will also benefit regulatory authorities in formulating new policies regarding audit quality.

# Academia Researchers

Our study will be useful to researchers in the field of accounting / related fields who are interested in carrying out similar studies since the study tends to add to existing literature on bankruptcy and accounting going concern in Nigeria.

# Definition of Operational Terms

**Going Concern**

This refers to a [business](https://en.wikipedia.org/wiki/Business) that functions without the threat of [liquidation](https://en.wikipedia.org/wiki/Liquidation) in the foreseeable future,

which is usually regarded as at least the next 12 months or the specified accounting period (the

longer of the both). In Simple words, a going concern is the ability of a business to meet its financial obligations when they fall due.

# Audit Quality

Audit quality is the process of systematic examination of a quality system carried out by an internal or external auditor of an organisation.

# Audit Firm Size

Usually refers to the four largest [accounting](https://www.accountingcoach.com/blog/what-is-accounting) and auditing firms which include:

PricewaterhouseCoopers, Deloitte Touche Tohmatsu, Ernst & Young, and KPMG. These [certified](https://www.accountingcoach.com/blog/what-is-a-certified-public-accountant)

[public accounting (CPA)](https://www.accountingcoach.com/blog/what-is-a-certified-public-accountant) firms perform most of the audits which are required of U.S. corporations

having [stock](https://www.accountingcoach.com/blog/what-is-stock) that is publicly traded.

# Audit Fee

Audit fee is the economic remuneration for auditors who provide audit services, which are an agency fee according to certain standards. The audit fee includes the total cost of audit through the overall audit work, the risk compensation and the profit demand.

# Audit Tenure

three years is considered to be short tenure, and more than nine years is considered long tenure. Auditor Tenure is defined in this study as the length of the auditor-client relationship.

**Joint Auditors**

Joint Auditors: Practice of appointing more than one auditor to conduct the audit of large entities. Such auditors, known as Joint Auditors. Joint Auditors conduct audit jointly & report on the financial Statements.

**Audit Report Lag**

Audit report lag (ARL) is the length of time from a company's fiscal year-end to the audit report date, and is often viewed as the most important financial reporting timeliness determinant. Given that timeliness is an area of interest to investors, managers, regulators, auditors and academics, an understanding of ARL determinants is extremely important.

**Altman Altman Z- Score**

The Altman Z-score is the output of a credit-strength test that gauges a publicly-traded manufacturing company's likelihood of bankruptcy.

# CHAPTER TWO LITERATURE REVIEW

# Introduction

In this section, review of related previous literature was carried out. This section reviews the literature in the following aspects: Conceptual Literature Review, Theoretical Expository Literature Review, Review of Empirical Literature and we also discuss associated gap in prior reviewed studies.

# Conceptual Framework

Conceptual framework is an analytical tool with several variation and contexts. It can be applied in different categories of work where an overall picture is needed. It is used to make conceptual distinctions and organize ideas.

# Concept of Going Concern Opinion

One of the main assumptions underlying financial statements is the going-concern assumption. Under this assumption a company is expected to continue operation in the foreseeable future and not go out of business. This assumption is vital for the valuation of assets, as it means that assets can be valued upon their business value when in use rather than their termination value, which is in general a lot lower. If a firm is not expected to continue to stay in business in the foreseeable future, the auditor can give an adverse opinion in the form of a going-concern opinion (Geiger and Raghunandan 2002). The going-concern opinion is an important signal for investors as it is off course vital for them to know whether the company which they are investing in will continue its operation in the future. Going concern is also called continuity assumption which in a business

accounting estimates will continue in an unlimited time period (Syahrul, 2000). Altman (1982) finds that a going-concern opinion is seen as a signal of potential bankruptcy.

As it relates to the external auditor, going concern audit opinion is an audit opinion with an explanatory paragraph regarding the auditor's judgment that there is incompetence or significant doubt on the viability of the company to run its operations in the future. Modification about going concern in the audit report is an indication that an auditor's assessment found the risks that the auditee cannot stay in business. Furthermore, it is said from the viewpoint of the auditor, the decision to give a going concern audit opinion should involve several stages of analysis after considering the results of operations, economic conditions affecting the company, the ability to pay the debt, and future liquidity needs. The auditor has a responsibility based on Public Sector Accounting (PSA) 30 (SA 341) to evaluate whether the company has a business continuity. Specifically, the conditions and the following events lead to doubts about the ability of companies to have business continuity. (1) Operational losses large enough or lack of working capital (2). The company's inability to pay its obligations on the due date. (3) The consumer loses, uninsured disaster, such as earthquakes or floods, or unusual employment problems. (4) Law of demand, violation of law or the like which can interfere with the ability of the company (Ikatan 2001).

# Audit Quality

There is no universally accepted definition of audit quality since different authors define it differently. However, audit quality definition as put forward by DeAngelo (1981) is the most widely used definition which state that the quality of audit services is defined to be the market- assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system, and (b) report the breach. Many researchers then used this double approach to

further define audit quality with details in competence and independence, while others adopt it as a foundation to identify other audit quality attributes. For instance, Seyyed (2012) provides further explanation that audit quality could be a function of the auditor’s ability to detect material misstatements and reporting the errors.

Together with other similar definitions, they all emphasize on two of the most important aspects of audit quality, namely auditor ability or auditor effort, and auditor independence. Therefore, this stream of definitions is mainly about the auditors’ quality. Another stream of defining audit quality focuses on the accuracy of the information reported by the auditors. Choi and Yang (2008) suggest that high audit quality would improve the reliability of financial statement information and allows investors to make more precise estimate of the firm’s value. Schauer (2002) also proposed that “higher quality audit increases the probability that the financial statements more accurately reflect the financial position and results of operations of the entity been audited”. In other words, audit quality is part of the quality of accounting information disclosed (Clinch, 2010).

Besides, another set of definitions concentrates on the degree to which the audit conforms to applicable auditing standards. Furthermore, according to Davidson and Neu (1993), audit quality is “the ability of the auditor to discover and reveal material misstatements and manipulations in net income reported”. This is in line with the study of Salehi and Azary (2008) who stated that “audit quality is the capability of an auditor in the protection of the interest of users of financial statement through the detection and reporting of material misstatements and diminution of information asymmetry between the users of financial statement and management”. In a similar context, Palmrose, (1986) noted that audit quality is the level of assurance, the probability that financial statements contain no material misstatement or omission and also argue that a higher level of assurance corresponds to a higher audit services quality.

Managers have various incentives to mislead stakeholders by altering the financial statements which would endanger the reflection of the ‘true’ economic conditions in the financial statements. Hence, a quality audit is expected to reduce the information risk that the report contains material misstatements, and constrain earnings management (Knechel, Krishan, Pevzner, Shefchik, & Velury 2013).

# Audit Report

There are a couple of things that are shown in an audit report. After an introduction about an audit

that is performed, this is where the opinions of an auditor are stated. Auditor’s report can either be

unqualified or qualified.

# Unqualified Report

This is also known as a clean report and is considered to be the most common type of audit report.

In this report, an auditor assigned in an audit simply states that a company’s financial statements

that have been audited are fairly and correctly presented on their records. It is also stated there that

important facts are not hidden and it complies with the accounting standards. This is a report that

shows an auditor’s assumptions that your business has followed conformity with accepted

accounting principles and legal requirements. The unqualified report only states that your financial

statements are correct and do not have any important details hidden. (Hayes, Schilder, Dassen, &

Wallage 1999).

# Qualified Report

This is a kind of report that states that a company’s financial records are fairly presented aside from certain areas. It means that most things related to audit have been dealt with except for a few matters at hand. It is basically saying to anyone who needs to know that the company in question has accounting methods that do not follow the accounting standards. Aside from that, it is also

possible that there is a disagreement between two parties (auditor and management). However, it should be noted that having a qualified audit report is a sign that a business is deteriorating as it only means that a company’s financial statements are not found to be transparent. (Hayes, Schilder,

Dassen, & Wallage 1999).

# Audit Firm Size

Until the late 20th century, the market for professional audit services was actually dominated by eight networks which were aptly nicknamed at the time as the "Big 8" (Deloitte Haskins & Sells, Arthur Andersen, Touche Ross, Price Waterhouse, Coopers & Lybrand, Peat Marwick Mitchell, Arthur Young & Co. and Ernst & Whinney) but this number was gradually reduced due to mergers between these firms, as well as the 2002 collapse of Arthur Andersen, leaving four networks dominating the market at the turn of the 21st century. In the United Kingdom in 2011, it was reported that the Big Four account for the audits of 99% of the companies in the FTSE 100, and 96% of the companies in the Financial Times Stock Exchange (FTSE) 250 Index, an index of the leading mid-cap listing companies. Such a high level of industry concentration has caused concern and a desire among some in the investment community for the competition and markets authority to consider breaking up the ‘Big 4’. In October 2018, the Competitions and Markets Authority (CMA) announced it would launch a detailed study of the Big Four's dominance of the audit sector. Four names – or global brands – dominate the skyline: Deloitte Touche Tohmatsu (Deloitte) PricewaterhouseCoopers (PwC), Ernst & Young (EY) and Klynveld Peat Marwick Goerdele (KPMG). While these Big 4 audit companies are typically seen as single ﬁrms, they actually comprise a network of independently owned and managed companies that share a common brand, name and quality standards. Between them, these ﬁrms employ over 750,000 staff, operate across 150 countries, and, in 2014 alone, generated a massive $113.7 billion in revenues. These ﬁrms

dominate the market and collectively audit 99% of the Financial Times Stock Exchange (FTSE 100) and more than 95% of the FTSE 350 companies (Kaplan & Williams 2012). Even the smallest of the Big 4, KPMG, is larger than the next four accounting ﬁrms combined (The Economist, 2014). A striking feature of their revenues is the growing percentage of income that now comes not from traditional auditing but from consulting and from tax, legal and ﬁnancial advisory work. In 2012, Deloitte estimated that its consulting work would overtake auditing by 2017 (The Economist, 2012). Indeed by 2016 its US subsidiary, Deloitte LLP, earned less than 30% of its income from ‘Audit and Enterprise Risk Services’, while consulting accounted for 48.4% (Deloitte US, 2017). This combination of market dominance and shift of modus operandi towards ﬁnancial and management services creates major tensions and conﬂict of interest that has long been recognized but are far from resolved.

In this study, we note that the Big Four is the nickname used to refer collectively to the four largest professional services networks in the world, consisting of Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers. The four networks are often grouped together for a number of reasons; they are each comparable in size relative to the rest of the market, both in terms of revenue and workforce; they are each considered equal in their ability to provide a wide scope of quality professional services to their clients; and, among those looking to start a career in professional services, particularly accounting, they are considered equally attractive networks to work in, because of the frequency with which these firms engage with Fortune 500 companies. The Big Four each offer audit, assurance, taxation, management consulting, actuarial, corporate finance, and legal services to their clients. A significant majority of the audits of public companies, as well as many audits of private companies, are conducted by these four networks.

Prior empirical studies have provided support to show that audit firm size can be used as a strong proxy for auditor’s quality. For example, the study of Davidson (1993) supports the argument that the size of the firm is a good proxy for auditors’ quality adopted from an indirect method which provides managers with the incentives to manipulate reported earnings only to meet analysts’ forecast. DeAngelo (1981), in her attempt to measure audit quality, treated the variable of audit quality as a dichotomous variable where she assumes 1 for large and for small audit firms respectively. Okolie (2014), suggests that audit firm size signifies various types of qualities and assumes that the sizes (Big 4, Big 5, or Big 6. Big 8, etc) of an audit firm shows reputation, international affiliation, and integrity which are reflected in the audit report. Higher quality audit process implies higher information credibility and quality, resulting in a higher quality of financial statements and by extension credibility of auditors is assumed in higher audit quality (Okolie, 2014).

# Audit Tenure

Audit tenure is defined as the number of years that an auditor is retained by a firm. Tenure within three years is considered to be short tenure, and more than nine years is considered long tenure. Academicians and accounting professional have argued and asserted that audit firm tenure could help to maintain auditor independence (Mautz & Sharaf 1961; Gutzman 2002). Also, the auditor will be in a stronger position to resist management pressure and be independent with integrity and will provide objective professional judgment when there is a mandatory audit firm tenure (Chung, 2004; Wolf, Tackett & Claypool, 1999; Brody & Moscove 1998). For auditor to maintain auditors’ independence and objectivity, audit firm should periodically relinquish their client. Examples of countries that have oversight boards and have implemented mandatory audit tenure are United Kingdom 2003, Austria and Canada 2005, Spain 1989, South Korea 2006, Brazil 1999, Italy 1974,

France 1998-2004, Singapore 2002 (Cameran & Vincenzo 2005).

The major threats to auditor independence are audit fees and length of the auditor-client relationship. There is no consensus about the effects of tenure on auditor independence. While most authors agree that audit qualifications are less likely during the earlier years of engagement, they provided contradictory results about the relationship between tenure and audit qualifications after the initial period (Knechel & Vanstraelen 2007).

# Audit Fee

The value of an audit lies on the perception coming from users of audited statements on the auditor’s ability to detect errors or breaches in the accounting system and to resist client pressures to disclose such discoveries (DeAngelo, 1981). The calculation of fees is a sensitive issue, where professional ethics and the interest of auditing did not allow that the prices budgeted are too high or too low. Marra and Franco (2001) suggest that the best way for clients to charge fees might be using a fixed and invariable value. Nevertheless, this procedure might lead to very high fees, damaging the client, or very low, damaging the auditor, having in mind that prices are budgeted by taking into account the number of hours or days required to conduct the audit. Audit fee may have influence on audit quality and Concept of Going concern. One of the major threats to auditor independence is the fees perceived by the auditor for audit. Auditors have economic incentives that threaten their independence as well as market-based institutional incentives to act independently. Market-based incentives that relate to reputation and litigation costs are well documented in the literature (DeFond, Raghunandan, & Subramanyam 2002). In view of William (2015), economic incentives to issue an audit opinion unmodified for going concern uncertainties relate to the monetary benefits from client services provided. A crucial assumption is that auditors are inclined to sacrifice their independence and be less objective in their audit reporting when the magnitude of their service fees creates economic bonding with the client (Simunic 1984).

# Joint Auditor

In recent years, there has been increased concern regarding auditor independence, a necessity for audit quality. Calls for more regulation and governance to improve auditor independence have been made, with the ultimate goal of restoring trust in the quality of financial statement audits (Eilifsen & Willekens, 2008). Most recent example is the Green Paper ‘Audit Policy: Lessons from the Crisis’ of the European Commission, which is aimed at stimulating discussion on how to improve audit regulation to increase audit quality (and audit market competition). The Green Paper proposes several regulatory actions as possible remedies for the alleged lack of market trust in auditor independence, such as joint audits which is the focus of this study. In the Green Paper, the idea of adopting joint audits was raised as a potential way to enhance audit quality and to stimulate audit market competition (Andre, Broye, Pong, & Schatt 2009; European Commission, 2010; Financial Times, 2007; Herbinet, 2007; Kauppalehti, 2011a, 2011b; Mazars, 2010).

From the Nigerian perspective, Price Water House Cooper (PWC, 2015) in one of their exposure drafts of National Code of Corporate Governance noted that the Institute of Chartered Accountants of Nigeria (ICAN) initially pushed for mandatory joint audit but jettisoned the idea after due consultations at its forum of firms where it was unanimously agreed that there is no consensus on the benefits of mandatory joint audit arrangements. But Okaro, Okafor and Okoye, (2015) with respect to restoring audit quality in Nigeria advocated for joint audits while in Ghana, Osei- Afoakwa, (2013) advocated for the audit findings to be subjected to peer review process where another auditor of similar competence is elected to have another look at the work of the audit firm under review.

In Europe, Denmark, listed and state-owned companies are required to be audited by two mutually independent auditors from 1930 to 2004. However, the abandonment of mandatory joint audit was

motivated by unnecessarily high audit costs (Danish Financial Statement Act, 2001) and an assumption that a single auditor can provide a more holistic approach. From the French perspective, joint audit has been mandated since 1966 but in the 1970s, the accounting profession and financial market authorities increasingly criticised the joint audit practices for its inability to ensure collegiality, a drawback attributed to difficulties with allocating the audit tasks, agreeing on common audit programmes and applying consistent methodologies (Marmousez, 2012). Sweden mandated joint audits for the banking industry until 2004 and for the insurance industry until 2010. A mandatory joint audit requirement for the banking sector, combined with a two-year rotation period (Richardson, 2001), was also in place in Canada during the 1923–1991 period (1923 revision of the Bank Act). South Africa had a mandatory joint audit requirement for the banking industry during the 1990 to 2003 period (Banks Amendment Act, 2003). Furthermore, some developing countries such as Algeria, Congo, India, the Ivory Coast and Kuwait have introduced mandatory joint audits for specific types of companies, e.g., banks, listed and state- owned companies.

On the definition of joint audit, there is a general agreement among researchers. Previous studies (Zerni, Haapamakij, Javinen & Niemi 2012; Alanezi, Alfaraihi, Alrashaid &Albolushi 2012; Baldauf & Steckel, 2012; Ratzinger-Sakel,Audousset-Coulir 2013) define joint audit as an audit in which two or more independent auditors, from separate audit firms, are appointed to audit financial statements of an audit client, in such a way that involves: joint development of the audit plan; performing the audit work jointly; making periodic cross reviews and mutual quality controls; issuing and signing a single audit report; and bearing joint liability in case of audit failure. The concept of joint audit should be differentiated from the concept of dual audit, where two or more independent auditors from separate audit firms are appointed to audit financial statements of

an audit client in a way that involves: developing the audit plan separately; performing the audit work separately; no periodic cross reviews and mutual quality controls; and issuing two or more audit reports, in which every auditor is not responsible for the audit opinion expressed by the others (Alanezi, Alfaraihi, Alrashaid &Albolushi 2012; Ratzinger-Sakel, Kettunen & Lasage 2013). Also, the concept of joint audit differs from the concept of Double Audit, where a single auditor is required to fully perform the audit work twice (Alanezi , , Alfaraihi, Alrashaid &Albolushi 2012; Ratzinger-Sakel, Kettunen & Lasage 2013). In a joint audit, two different audit firms jointly form an opinion of a client’s financial statements of which they are also jointly liable for the issued audit opinion.

# Audit Report Lag

The usefulness of accounting information to diverse financial statement users depends on the completeness, accuracy, reliability, and timeliness of this information (Singhvi & Desai, 1971). Hence, timely reporting might be viewed as one of the main determinants of financial reporting quality that enhances decision-making quality. In addition to improvement of the efficiency of resource allocation by reducing information asymmetry (Financial Accounting Standards Board, 1980), timely audited financial information improves pricing of securities (Givoly & Palmon, 1982; Chambers & Penman, 1984), and limiting the insider trading and spread of rumors in the market (Owusu-Ansah, 2000). In terms of audit, users of annual reports often consider timeliness as one of the determinants of audit quality (Al-Ajmi, 2008).

In the light of this, Leventis and Caramanis (2005) provides argument where timeliness is a measure of audit quality since quality of audit would increase if a financial report is submitted on time. Users often feel more confidents and would rely more on corporate reports that are submitted within the timeframe. In addition, users normally perceive that the longer it takes for a company

to make the announcement, the lower would be the quality of reports and vice versa. This is because users may find out information related to the company from other sources which sometimes reveal unpleasant news related to the company.

Timely reporting in emerging markets (such as Nigeria) is of particular importance since information in these markets is relatively scarce and has a longer time lag. Timely reporting enhances decision-making and reduces information asymmetry in such markets. Hence, research on the determinants of timely reporting could help regulators in emerging capital markets to formulate better policies that will enhance financial reporting practices in these markets. In this study, audit report lag (ARL) is defined as a period from a company’s fiscal year-end date to the audit report date. The shorter the ARL, the greater the usefulness and benefits that users can derive from these statements (Atiase, Bamber, & Tse 1989; Abdulla, 1996). On the other hand, the relevancy and usefulness of the reported financial information are expected to decline as the reporting delay increases and this, in turn, can affect an investor’s choices of action (Ahmad & Kamarudin, 2003). Moreover, Bambe, Bamber, & Schoderbek (1993) argued that delayed corporate disclosure may encourage some unscrupulous investors to acquire costly private pre- disclosed information and exploit this information at the expense of less informed investors.

The Securities and Exchange Commissions (SEC) in the U.S.A has also highlighted the importance of annual reports to be timely to the investors as delaying the submission of annual reports to the public would indicate that the information contained in the annual reports is less valuable to the investors (SEC, 2002). In order to increase the information efficiency in the markets, SEC has issued rules requiring reductions in filing deadlines in year 2007 from 90 days after the financial year-end to 60 days for large accelerated filers (SEC, 2005). That reduction illustrates that timeliness is a key characteristic of financial reporting. Similarly in the Nigerian market, Security

and Exchange Commission (SEC) Listing Requirements imposes that the annual report has to be submitted to the exchange within a period not exceeding three months from the year end of the company. Failure to comply with the listing requirements of the SEC may result in a number of sanctions including a fine.

# Control Variable

A control variable is anything that is held constant or limited in a research study. It’s a variable that is not of interest to the study’s aims, but is controlled because it could influence the outcomes. Leverage is the control Variable in this study.

# Leverage

The ratio of total liabilities to total assets is called the debt ratio, or sometimes the total debt ratio. It measures the percentage of funds provided by sources other than equity: Assets can include both tangible (property, plant and equipment) and intangible (patents and trademarks) resources. On the liability side, this ratio normally includes both short- and long-term debt. A lower debt ratio indicates that a company relies less on borrowing as compared to equity for financing its assets. Generally, the lower the debt to-assets ratio the better, but acceptable levels will vary across industries and companies. Larger, stable and more established companies can take on more debt without adding too much risk for investors. The more predictable and stable the cash flow, the easier and cheaper it is for firms to borrow (Rauh & Sufi 2010).

Companies in more volatile industries (like technology) may have a harder time adding debt if times get unsound. Creditors prefer low debt ratios because the lower the ratio, the greater the lesser the chances of losses in the event of liquidation. Stockholders, on the other hand, may want more leverage because it magnifies expected earnings. The debt position of a firm indicates the

amount of other people’s money being used to generate profits. In general, the financial analyst is most concerned with long-term debts because these commit the firm to a stream of contractual payments over the long run. As Ehrhardt and Brigham (2011) state, the more debt a firm has, the greater its risk of being unable to meet its contractual debt payments. Because creditors’ claims must be satisfied before the earnings can be distributed to shareholders, current and prospective shareholders pay close attention to the firm’s ability to repay debts. Rauh and Sufi (2010) show that recognition of debt heterogeneity leads to new insights into the determinants of corporate capital structure. They show low credit quality firms are more likely to have a multi-tiered capital structure consisting of both secured bank debt with tight covenants and subordinated non-bank debt with loose covenants.

# Altman Z-Score

In 1968 Edward Altman applied multivariate discriminant analysis to derive a linear combination of ratios, which best discriminate between financially distressed and non-distressed firms. He used a matched-pair sample of 33 bankrupt and 33 non-distressed companies from the same industry.

Firms having Z-Score higher than the cut-off are classified as financially sound, while the ones with lower Z-score as having a higher probability of default. The model had Type I error of 6% and Type II error of 5% respectively, thus was more accurate than Beaver’s model. In 1990s, Altman revisited his Z-score and analyzed the changes, which contributed to the overall increase in business risk (Altman & Narayan, 1997). Altman also came with Z-Score for private companies, with adjusted coefficient weights and X4 coefficient is determined as the ratio between the book value of companies owned and borrowed capital (debt) (Altman 1968).

Although there has been much criticism regarding the effectiveness of Z-score models, currently the usefulness of ratio analysis is reiterated. Despite application of more complicated computational techniques, bankruptcy prediction models have not significantly improved. Therefore, Z-score model continues to be used in a variety of business situation from actual bankruptcy to other financial distress conditions. Commercial banks use the model as part of the periodic loan review process, investment bankers use the model in security and portfolio analysis, it has been applied as management decision tool and as an analysis tool by auditors to assess clients’ ability to continue as going concern (Grice and Ingram, 2001).

# Audit Quality in Nigeria

As vital as financial reports are users rely on them to make economic decisions simply because the auditor has expressed an opinion and assurance on their fairness, financial distress, bankruptcy. The collapse of corporate organizations such as Cadbury Nigeria Plc, Afribank Nigeria Plc, Intercontinental Bank Plc. (2009) in Nigeria is worrisome and thus questions the quality of audit performed by the auditors on those financial statements. However, one reoccurring problem in the research on quality of audit report is that the perceived reliability of audited financial information has declined while the perceived relevance of audited financial information has been on increase (John & Kenneth 2019).

Countries all around the world have set codes of best practice as guidelines to address governance and financial reporting anomalies: Cadbury Report was produced in United Kingdom, Sarbanes Oxley in United States, the Dey Report in Canada, the Vienot Report in France, the Olivencia Report in Spain, the King’s Report in South Africa, Principles and Guidelines on Corporate Governance in New Zealand and the Cromme Code in Germany. The goal of these regulations is to improve firms’ corporate governance environments (Bhagat & Bolton, 2009). In Nigeria, the

Regulatory authorities have responded by compelling companies to comply with stringent corporate governance codes, recently this code was reviewed-Corporate Governance Code, 2020 (Semiu, Okwy, & Eyesan 2012). The quality of an audit depends simultaneously on several audit firm features such as auditor specialty, auditor independence, auditor tenure, audit firm size, audit fee, auditor enterprise, audit company type (Abedalgader, Ibrahim & Baker, 2010). Auditors express their audit opinions on a financial statement presented to them based on audit evidence. Insufficient or inappropriate audit evidence may lead to wrong conclusions and this may affect the quality of the report.

The regulatory bodies in Nigeria comprises of (SEC) Securities and Exchange Commission which is responsible for regulating the listing requirements in the capital market. The (CAC) Corporate Affairs Commission regulates companies’ registration, supervision, incorporation and winding up. Companies and Allied Matters Act 1990 (CAMA) is responsible for the preparation for financial statements by listed companies. Financial Reporting Council of Nigerian (FRCN) is responsible for the review and removal of local accounting standards and is also in charge of accounting information prepared in accordance to standards.

# Audit Firm Size and Going Concern Concept

The variation in audit quality provided by Big Firms and Non-Big audit firms has received considerable attention in prior research Most auditing studies categorize audit firms as a big 4/5/6/8 firm or a non-big firm. A big audit firm is perceived as prestigious and reputable consequently provides high audit quality. The Big 4 auditors can sustain high audit quality level due to the fact that they have a greater number of clients, thus revenues are derived from several clients such that their revenue streams will not be affected by a single client, which makes them more independent. In the views of Ndubuisi & Ezechukwu, (2017) and Becker, Defond, Jiambalvo, & Subramanyam

(1998) big four auditors are better able to detect earnings management because of their superior knowledge and act to detect and report earnings management in order to protect their reputation. This is in line with the outcome of Lin and Hwang (2010) who argue that there is a negative relationship between big 4/5/6 and earnings management hence the chances that the firm will fall into distress is low.

# Audit Tenure and Going Concern Concept

Academic literature shows mixed results on the effect of auditor tenure on accounting going concern. To this extent, Hohenfels and Quick (2018) reports a positive effect of auditor tenure on earnings management which may lead to distress, arguing that investors perceive a potential impairment of audit quality as the tenure increases which would affect earnings quality. On the other hand, as auditor tenure increases, the auditor should become better at recognizing material misstatements by gaining experience and better insights into the clients’ business strategies and internal financial reporting process. Several studies show that a long audit relationship improves the conditions of the outcome of the audit process. Thus, they argue that the duration of the audit- client relationship can have a positive impact on the quality of the audit performed hence the possibility of detecting any material mis-statement thereby lowering the chances of receiving qualified opinion becomes low.

# Audit Fee and Going Concern Concept

In modern corporations characterized by the separation of ownership and control, auditors play an important monitoring role (Jensen & Meckling 1976) Stakeholders rely on financial information provided by management for investment, financing and other decisions. To assure users of the reliability of the financial statements, the board hires independent auditors to attest to the reliability of the statements. However, management (subject to ratification of the shareholders) controls the

process of hiring and firing independent auditors and also pay quasi-rents associated with the audit contracts. In this situation, auditors may be incentivized to yield to management pressure which implies that the reliability of the information contained in audited financial statements depends upon the level of independence of the auditor (Becker, Defond, Jimbalyo, & Subramanyam 1998). Extant literature confirm that Big 5 auditors are of higher quality and, thus, must be more independent (DeAngelo 1981). But others contend that high fees paid by the company to the auditor increase the economic bond between the auditor and the client, thus the fees may impair the auditor’s independence (Li & Lin, 2005). Hence, higher fees paid to the auditor might make the auditor look away from errors and possible earnings management activities of the company of which in the long run these sharp practices will lead to financial distress.

# Joint Auditor and Going Concern Concept

There is a strong debate raised by proponents and opponents of the joint audit. Proponents of joint audit (Baldauf & Steckel, 2012; Zerni, Haapamaki, Jarvinen, & Niemi, 2012; Lobo, Paugam, Zhang, & Casta 2013) argue that the practice of joint audit could increase audit quality thereby lowering earnings management for the following reasons. First, the type of audit report issued by two auditors seems to be more precise than the type of audit report issued by a single auditor because having four eyes to obtain audit evidence could increase the precision of audit opinion that will be issued based on this evidence. Second, Joint audit could improve the auditors' ability to detect material misstatements because it allows each auditor to check the work done by the others to make sure that the other auditors have taken the appropriate audit procedures to obtain the appropriate and sufficient audit evidence. Third, joint audit could improve auditor independence by weakening the economic relationship between the auditor and the client because joint auditors share audit fees between them. In addition, it weakens the economic relationship

between the auditor and the management because it might be more difficult for management to manipulate two auditors instead of one. Fourth, Joint Audit could improve auditor competence through preserving knowledge that results from auditors' meetings. Finally, joint audit could reduce audit market concentration by reducing the domination of big audit firms and allowing small audit firms to collaborate with big audit firms, resulting in the emergence of new generation of big audit firms.

On the other side of the divide, opponents of joint audit (Marmousez, 2012; Zerni, Haapamaki, Jarvinen, & Niemi, 2012; Alsadoun & Aljaber, 2014; Deng, Simunic, & Ye 2014) argue that the practice of Joint Audit could reduce audit quality for the following reasons. First, it could result in Free Riding problem because small audit firm has fewer resources than the big audit firm, so it will have an incentive to withhold its limited resources and free ride the big audit firm's effort. Second, joint audit could result in Opinion Shopping problem because management may offer to purchase the audit opinion of the small audit firm, and the small audit firm may accept this offer because, in this case, the big audit firm will bear the reputation costs alone. Third, joint audit may result in insufficient information exchange, resulting in compromising audit quality because auditors from competitive audit firms may not have an incentive to cooperate while conducting the audit. Fourth. accounting standards contain many accounting alternatives, which may make cooperation between auditors difficult and lead to conflict between them in the event an auditor chooses a different accounting alternative than the other auditor would prefer. This could lead to a difficulty in reaching a common opinion among the auditors. Fifth, the adoption of joint audit approach may become a ceremonial process. If the same two audit firms participate in the audit of the same clients, an informal agreement may occur between them where each reviews the financial statements of a certain number of clients on their own while the other auditor only signs the report.

The audit becomes, in practice, an individual audit, which may adversely affect the accuracy and quality of the audit evidence (Piot & Missonier-Piera 2007).

# Auditors Report Lag and Going Concern Concept

Early studies have found that an adverse audit opinion is frequently delayed as auditors need to perform more audit tests, engage in prolonged negotiations with firms regarding going concern uncertainties and even delay issuance of audit reports to allow firms to resolve their financial difficulties (McKeown, Mutchler, & Hopwood, 2011; Chen & Church, 2013; Gibbins, Salterio, & Webb 2001). Audit reports are also frequently delayed for firms reporting losses as auditors are more cautious especially when the likelihood of financial failure and/or management fraud is high (Ashton, Graul, & Newton, 2015; Carslaw & Kaplan, 2014; Bamber, Bamber, & Schoderbek, 2013).

On the contrary, recent studies suggest that difficult times like the financial crisis with increased likelihood of corporate failures and heightened overall audit risk do not appear to affect audit time and effort. Indeed, audit clients and clients’ creditors demand for timely release of audited financial statements on which several debt covenants are based (Xu, Carson, Fargher, & Jiang, 2013). Further, market response to late filings of financial reports is negative (Li & Ramesh, 2009); late filings and late announcements are typically believed to contain bad news. In times of financial crisis where the need to boost market confidence is urgent, auditors are pressured to complete audit work in a timely manner. Besides pressure to complete audit work on time, greater audit time spent beyond the optimal level has also been found to undermine the quality of audit work resulting in a higher likelihood of a future restatement (Blankley, Hurtt, & MacGregor, 2015). As audit report lag increases, time pressure adversely affects audit judgment resulting in future revision of the audited financial statements hence the likelihood of financial distress becomes eminent.

# Review of Related Empirical Literatures

Chang and Hwang (2020) investigate whether firm’s financial distress is predictable using artificial intelligence techniques research methods. The authors analyze whether audit quality is the key factor that affect the occurrence of company’s financial distress in China. Using binary choice model and life test method, the evidence indicates that audit quality of the firm is negatively correlated with the probability of firm’s financial distress. The authors concluded that firm with higher audit quality would be more likely to reduce the probability of financial distress.

Mukhtaruddin, Handri, and Inten (2018) examines the effect of a company's financial condition, company’s growth, and audit quality on acceptance of going concern audit opinion. This study uses 252 sample of manufacturing companies listed in Indonesia Stock Exchange (IDX) for the period 2010-2012. The hypotheses in the study were investigated using logistic regression. The hypothesis testing showed that company’s financial condition influences the acceptance of going concern audit opinion, while company’s growth and audit quality do not influence the acceptance of going concern audit opinion.

Averio (2020) aim to determine the factors that affect auditor’s going concern opinion. The study used secondary data obtained from annual reports and independent audit reports published by the Indonesia Stock Exchange. The population of the study included manufacturing firms registered in the Indonesia Stock Exchange from 2015 to 2019. The sample consisted of 33 companies after purposive sampling technique was applied. The data were analyzed using logistic regression performed in statistical analysis software, SPSS 24.0. The results indicate that leverage positively affected the going concern audit opinion, then the audit quality, profitability and liquidity negatively affected going concern audit opinion, whereas firm size and audit lag did not affect the going concern audit opinion.

Puspaningsih and Zulfikri (2021) aim to reexamine the factors that influence the acceptance of going concern audit opinions. The factors tested in the study were leverage, previous audit opinions, opinion shopping and company’s growth. This study employed mining companies listed on the Indonesia Stock Exchange for the period between 2015 - 2018. Based on the results of purposive sampling, the authors employed 40 mining companies that meet the sample criteria. Hypothesis testing in this study was carried out by logistic regression analysis which suggest that previous audit opinions have a positive effect on acceptance of going concern audit opinions, while leverage, opinion shopping and company’s growth do not affect going concern audit opinions.

Sari and Susanto (2018) sought to get empirical evidence about the effect of management turnover, qualified opinion, audit delay and financial distress on auditor switching. This study used 122 listed non-financial companies in Indonesia Stock Exchange, using purposive sampling method in period 2011 to 2015. The data were analyzed using logistic regression analysis. The result of the research showed that management turnover, audit delay, and financial distress have no significant effect on auditor switching. While, qualified opinion has a significant influence on auditor switching.

Lu and Ma (2016) empirically examines the relationship between audit quality and financial distress based on Chinese listed firms. The study specifically examines whether high audit quality will reduce the likelihood of financial distress, especially in high growth firms and government owned firms. Results from the logistic regression indicate that the quality of external audit has a negative relationship with financial distress. In addition, for high growth firms, results show that the relationship between audit quality and financial distress is more significant. Finally, the association between audit quality and financial problems is moderated by ownership. The authors

concluded that audit quality is negatively associated with financial distress and their relationship is enhanced in growth firms and state-owned firms.

Khaddafi (2015) aim to analyze the influence of debt default, audit quality and audit opinion on the acceptance of Going Concern Opinion either simultaneously or partially on Manufacturing companies listed in Indonesia Stock Exchange. The secondary data used in the study of 68 firms were obtained by purposive sampling technique. The method used to analyze the relationship between independent variables and the dependent variable is logistic regression method which indicate that simultaneous variables debt default, audit quality and audit opinion jointly affect the acceptance of Going Concern Opinion with a significance. While the partial results of the variable debt default, audit quality and audit opinions have positive influence on acceptance of Going Concern Opinion.

Tagesson and Öhman (2015) aims to investigate the relationship between formal auditor competence, audit fees and audit firm, respectively, and the likelihood of issuing Going Concern Warnings (GCWs). The empirical data are based on annual reports and audit reports for 2,547 limited companies that went bankrupt in 2010 in the wake of the financial crisis and had filed a financial statement in the year before the bankruptcy. The findings indicate that Swedish auditors seldom issue GCWs. Moreover, there is a positive relationship between audit fee level and the likelihood of issuing GCWs, and Big 4 auditors being more likely to issue such warnings than other auditors. The authors concluded that the analyses identify differences between audit firms (within the group of Big 4 firms and within the group of other audit firms) in terms of their predictions of client bankruptcies.

Blay and Geiger, (2013) examine the association between audit service fees and non-audit service (NAS) fees and the auditor’s final decision regarding the type of opinion to render to a financially distressed client. Along with examining current fee levels and reporting decisions, the authors also test the DeAngelo (1981) auditor independence model by examining the association between future fee receipts and current reporting decisions. Using data from the post-SOX reporting period of 2004-2006 and a stringent control sample, they find that the magnitude of NAS fees received in the current year is negatively related to the likelihood of the auditor modifying the audit opinion for going-concern uncertainty. They also find that current going-concern modification decisions are negatively related to total fees received by auditors in subsequent years.

Berglund, Eshleman, and Guo (2018) demonstrate how properly controlling for clients' financial

health reveals a positive relationship between auditor size and the propensity to issue a going

concern opinion. The authors corroborate their findings by replicating a related study and showing

how the results change when financial health variables are added to the model. In supplemental

analysis, they find that Big 4 auditors are more likely than mid-tier auditors (Grant Thornton and

BDO Seidman) to issue going concern opinions to distressed clients. They also find that, compared

to other auditors, the Big 4 are less likely to issue false-positive (Type I error) going concern

opinions. Conclusively, they find no evidence that the Big 4 are more or less likely to fail to issue

a going concern opinion to a client that eventually files for bankruptcy (Type II error).

Kaplan and Williams (2012) challenge the view that larger audit firms, in order to avoid exposure to litigation, report more conservatively. The authors document that over time, financially stressed public companies are shifting to regional audit firms, partly due to the actions of larger audit firms shedding these clients, which represent ex-ante conservatism. In contrast, audit firm reporting represents ex-post conservatism. They show that over time, for their financially stressed public

clients, regional audit firms are increasingly more likely to issue going concern reports, and Big 4 audit firms are increasingly less likely to issue going concern reports. They also show that regional audit firms have been more likely than Big 4 and national audit firms to issue a going concern report to their financially stressed pubic clients.

Ji and Lee (2015) examine how auditors perceive managerial overconfidence during audit reporting by testing the relationship between managerial overconfidence and the likelihood of issuing a first-time going-concern modified audit opinion to financially distressed firms. After controlling for the factors affecting auditor’s going-concern modified audit opinion decision, the authors find from a logistic regression that the likelihood of issuing a first-time going-concern modified audit opinion is positively associated with managerial overconfidence, suggesting that auditors adversely value overconfident management in financially distressed firms and thus tend to issue a first-time going-concern modified audit opinion to them. Conclusively, the authors find that the positive association above is reinforced with capital market uncertainty.

Suroto and Kusuma (2017) aimed to examine the drivers of the likelihood of the going-concern audit opinions. The result indicates that firms’ financial condition and profitability significantly affect the likelihood of the going-concern audit opinion, while firms’ size and leverage are not the determinants of the intensity of the going concern audit opinion.

Arsianto and Rahardjo (2013) aim to test and provide empirical evidence about the influence of auditor reputation, disclosure, audit tenure, firm size, and the previous year's audit opinion to the going concern audit opinion. Population of the research is manufacturing companies listed on Indonesian Stock Exchange (IDX) between 2007 to 2011. The study sample were 53 companies acquired by purposive sampling method. Data were analyzed by using logistic regression show

that audit tenure, size of the company, and previous year's audit opinion significantly influence the going concern audit opinion. The authors concluded that the auditor reputation and disclosure did not significantly influence the going concern audit opinion.

Pratiwi (2018) aims to obtain empirical evidence of the influence of company growth, audit tenure and audit opinion of the previous year to going concern audit opinion. The study was conducted using data from manufacturing companies which listed on the Indonesia Stock Exchange period 2013-2017. To test the hypotheses, the authors used logistic regression analysis model. The results show that company's growth and the previous year's audit opinion affects going concern audit opinion, while audit tenure doesn't affect going concern audit opinion.

Fahmi (2015) studied the effect of audit tenure, prior year audit opinion, and disclosure on going concern audit opinion. This study uses samples of mining and agriculture companies that are listed on Indonesian Stock Exchange in 2011-2014. Based on purposive sampling method, the total sample of the study were 56 companies. The hypothesis in this study was tested using logistic regression which shows that prior year audit opinion has significant effect on the going concern audit opinion. Conclusively, the authors submit that audit tenure and disclosure do not have significant effect on going concern audit opinion.

Syahputra, Fauzan and Yahya (2017) sought to know the influence of audit tenure, audit delay, prior opinion, and opinion shopping on going concern opinion of manufacturing companies registered on BEI stock exchange. The population consist of manufacturing companies listed on BEI from 2013 to 2015. Logistic regression technique was employed to test the study hypotheses and the findings show that the variable of audit tenure and opinion shopping affects going concern

opinion. While the variables of audit delay and prior opinion have no effect on going concern opinion.

Simamora and Hendarjatno (2019) examine the effects of audit client tenure, audit lag, opinion shopping, liquidity ratio and leverage on the going concern audit opinion. The study used secondary data obtained from financial reports and independent audit reports published by Indonesian Stock Exchange (ISE) as well as Indonesian Capital Market Directory. The population of the study covered manufacturing companies registered on the ISE for the period between 2009 to 2013. With a purposive sampling technique which resulted in 16 companies employed as study sample, the logistic regression. results indicated that the variables of opinion shopping and leverage affected the going concern audit opinion, whereas the variables of audit client tenure, audit lag and liquidity ratio did not affect the going concern audit opinion

Cenciarelli, Greco, and Allegrini (2018) investigate the relationship between external auditor characteristics and the likelihood of bankruptcy. The authors use a sample of US public companies to analyze whether auditor attributes are associated with default. They also test whether the inclusion of such attributes in bankruptcy prediction models improves their predictive ability. They find that firms audited by industry-expert auditors, large audit firms and long-tenured auditors are less likely to default. Firms with higher audit fees are more likely to default. The authors noted that the inclusion of auditor attributes significantly increases the predictive ability of bankruptcy prediction models. In conclusion, the authors suggest that auditor attributes can provide predictive signals concerning a default risk and that an external audit can play a relevant role in early warnings of financial distress.

Blay, Geiger, and North (2011) examine the proposition that auditor's going-concern modified opinion is a valuable risk communication to the equity market that results in a shift of the market's perception of financially distressed firms. Specifically, the author’s analyses from the logistic regression model reveal that the market valuation is significantly altered from a focus on both the income statement and balance sheet to a balance sheet-only focus in the year a company receives a first-time going-concern modified opinion. The authors also document that the market devalues a company's inventory and places increased weight on cash, receivables, and long-term assets and liabilities as a result of the auditor's modification. This indicates that the going-concern modification provides incremental information specifically related to abandonment or adaptation risk. The authors concluded that the results provide evidence that the market interprets the going- concern modified audit opinion as an important communication of risk that results in a substantial shift in the structure of the market valuation for distressed firms.

Chen, Martin, and Wang (2013) investigate whether insider selling affects the likelihood of firms receiving auditor going-concern opinions. Insider sales followed by negative news are likely to attract regulators’ scrutiny and investor class-action lawsuits. Therefore, they predict that, to reduce the risk of litigation, managers have incentives to avoid receiving going-concern opinions after their insider sales by pressuring auditors for clean audit opinions. Also, they evaluate this prediction empirically and find that the probability of receiving a going-concern opinion is negatively associated with the level of insider selling. Further analysis indicates that this negative relationship is more pronounced for firms that are economically significant to their auditors but less pronounced when (1) auditors have concerns about litigation exposure and reputation loss and

(2) audit committees are more independent. The authors concluded that the negative relationship between going-concern opinions and insider sales is significantly weakened after SOX.

Myers, Schmidt, and Wilkins (2014) investigate whether audit quality resulted in a change in auditor behavior with respect to going concern reporting. The authors find that non-Big N auditors became more conservative while Big N auditors became more accurate. Specifically, the results of the logistic regression techniques show that non-Big N auditors issued more going concern opinions to both failing and non-failing clients post-2001, reducing their Type II misclassifications at the expense of increased Type I misclassifications. However, Big N auditors decreased their Type I misclassifications with no corresponding increase in Type II misclassifications.

Feng and Li (2011) examine whether auditors exercise professional skepticism about management earnings forecasts when making going-concern decisions. Using publicly issued management earnings forecasts as a proxy for earnings forecasts provided by managers to auditors, the authors find that management earnings forecasts are negatively associated with both auditors’ going- concern opinions and subsequent bankruptcy. The weight auditors put on management forecasts in the going-concern decision is not significantly different from the weight implied in the bankruptcy prediction model. The authors concluded that the evidence is consistent with auditors being professionally skeptical about management earnings forecasts when making going-concern decisions.

Gallizo and Saladrigues (2016) sought go in-depth into the relationship between going concern audit opinion and certain characteristics of the company and auditor, including financial decline. A Logit analysis was carried out in order to enable them discover the probability of receiving a going concern audit opinion and the analysis indicates that it is not financial decline, but rather registering losses and being audited by a small-scale auditor, that increase the likelihood of a company receiving a going concern audit opinion.

William and Ari (2016) examine prior audit reports for a sample of 401 U.S publicly held companies that filed for bankruptcy during the period 2002–2008. Using a quadratic model to control for potential nonlinearity in the relationship between auditor tenure and audit reporting, the authors find no significant association between auditor tenure and Type II errors for Big 4 audit firms. In contrast, for non-Big 4 audit firms they find evidence of a significant association that is nonlinear. Specifically, auditor tenure appears to adversely influence non-Big 4 firms' audit reporting for bankrupt clients in the initial years of an audit engagement and has no discernible effect in the later years. Thus, they provide evidence that long auditor tenure in itself, is not associated with Type II reporting errors.

Hossain, Chapple, and Monroe (2016) investigate whether an audit partner’s gender is associated with the likelihood of issuing a going-concern opinion for a financially distressed client. The analysis is based on data for a sample of Australian listed companies for the period 2003–2011. The author’s results from unrestricted and propensity score-matched samples and a Heckman two- stage model indicate that female audit partners are less likely to issue a going-concern opinion for financially distressed clients. The findings provide evidence of differential audit outcomes depending on the gender of the audit partner, thus implying that audit partner gender affects the decision-making processes used when making the audit reporting decision. In conclusion, the authors held that these behavioral differences have the potential to influence perceptions of financial reporting and audit quality.

Chae, Nakano, and Fujitani (2020) examines the effect of financial reporting opacity and audit quality on stock price crash risk using listed firms in Japan. The authors use a logistic regression and linear regression model to test whether financial reporting opacity and audit quality affect crash risk using listed firms in the Japanese stock exchange market during the fiscal years 2015

January through 2017 February. The results of this study suggest that financial reporting opacity variable shows a positive relationship with CRASH, which suggest that a firm with more opaque financial reporting increases crash risk. The results suggest also that firms audited by Big4 auditors experience less crash risk, implying that the audit quality in Japan can be one of the factors mitigating firm's crash risk.

Khikmah, Rohman, and Januarti (2020) aimed at examining and analyzing the impact of external audit on financial distress in Indonesian manufacturing companies. The samples used include data from manufacturing companies within the period 2014-2017, using purposive sampling method. A total of 128 companies were evaluated using panel data regression analysis, and the results showed an effect of going concern opinion, auditor switching and audit reputation on financial distress, although audit delay had no influence.

Simamora and Hendarjatno (2019) sought to discover the effects of audit client tenure, audit lag, opinion shopping, liquidity ratio and leverage on going concern audit opinion. The study used secondary data obtained from financial reports and independent audit reports published by Indonesian Stock Exchange (ISE) as well as Indonesian Capital Market Directory. The population of the study included manufacturing companies registered in ISE from 2009 to 2013. Further, the study applied purposive sampling technique which resulted in 16 companies used as the sample of the study and examined the hypotheses using logistic regression. Results of the hypothesis examination indicated that the variables of opinion shopping and leverage affected the going concern audit opinion, whereas the variables of audit client tenure, audit lag and liquidity ratio did not affect the going concern audit opinion.

Baimwera and Muriuki (2014) examine the determinants of corporate financial distress as postulated by Altman (1968) which are liquidity, leverage, growth and profitability in relation to financial distress for non-financial firms listed in the Nairobi Securities Exchange. The study adopted a descriptive research design with financial data being gathered from financial statements for a three-year period 2007 to 2010. The Pearson product moment correlation and regression analysis were used to examine the degree and nature of relationship between determinants of corporate financial distress and corporate financial distress itself. Liquidity and leverage were found to have no significant influence in determining corporate financial distress. Growth and profitability, on the other hand, had a significant influence. The Altman Z score model (a multivariate approach) was found to be a significant distress prediction model.

Ikpesu (2019) attempt to answer the basic research question on what actually determines financial distress of firms in the manufacturing sector of Nigeria by employing fully modified ordinary least square (FMOLS) on annual time series data of eighteen listed manufacturing firms on the Nigeria stock exchange (NSE) which was obtained from their audited financial statement. The endogenous variable used in the study is financial distress which is measured using the Altman Z score while the exogenous variables employed in the study are firm size, liquidity, profitability, and leverage. The study also employed control variables such as revenue growth and share price. Findings from the study showed that leverage, liquidity, profitability, firm size, revenue growth, and share price are the firm-specific determinant of financial distress of firms in the manufacturing sector in the country.

Muñoz‐Izquierdo, Laitinen, Camacho‐Miñano, and Pascual‐Ezama (2017) analyze empirically the usefulness of combining accounting and auditing data in order to predict corporate financial distress. Concretely, the authors examine whether audit report information incrementally predicts

distress over a traditional accounting model: the Altman's Z‐Score model. Although the audit report seems to play a critical part in financial distress prediction because auditors should warn investors about any default risks. From a dataset of 1,821 Spanish distressed private firms, they analyze a sample of distressed and non‐distressed firms and develop logit prediction models. The results show that while the only accounting model registers a classification accuracy of 77%, combined models of accounting and auditing data exhibit considerably higher accuracy (about 87%). Specifically, the findings indicate that the number of disclosures included in the audit report, as well as disclosures related to a firm's going concern status, firms’ assets, and firms’ recognition of revenues and expenses contribute the most to the prediction.

Yanuar (2018) aims to determine the effect of liquidity ratios, financial leverage, Operating income, and audit committee effectiveness on financial distress. Liquidity ratio, financial leverage, Operating income and audit committee effectiveness as independent variable and financial distress as dependent variable. The study employed secondary data obtained from Indonesia Stock Exchange (IDX) during period 2014-2016. The sample of this study consists of 37 manufacturing companies for the period 2014-2016 which is determined through purposive sampling. Logistic regression results indicates that (1) liquidity ratio has no significant effect on financial distress, (2) financial leverage has no significant effect on financial distress, (3) Operating income has significant effect on financial distress, (4) the size of the audit committee has a significant effect on financial distress, (5) audit committee meetings has no significant effect on financial distress, and (6) liquidity ratio, financial leverage, Operating income, audit committee size, and audit committee meeting simultaneously have significant effect on financial distress.

Anghel, Enache, and Merino (2020) investigate the reaction of insolvency rate to various shocks in the economies of Romania and Spain through a Structural Vector Autoregressive model.

Quarterly data for 2008–2016, showed that the future values of the insolvency rate are explained by the past values of the interest rate and the retail trade index, more precisely macroeconomic risk factors cost of debt and changing in demand are main factors responsible for the health of non- financial corporation’s sector. In contrast, the influence of investment rate on insolvency rate is not predictable. In addition, both in Romania and in Spain the interest rate is the main determinant of the insolvency rate variation, beyond its own innovations.

Amendola, Restaino, Sensini (2014) investigates the influence and the effect of micro-economic indicators and firm-specific factors on different states of financial distress. In particular, a competing risks model is estimated taking into account the differences among variables leading firms to exit the market through bankruptcy, liquidation and inactivity. The determinants of financial distress for any exit route are identified on the basis of the influence on the hazard ratios of the significant variables selected for each state. Furthermore, the predictive performance of the competing-risks model over the single-risk framework is evaluated, with respect to different time windows, by means of some accuracy measures. The results provide support for the hypothesis that the factors influencing firms’ way out strongly depend on the exit routes and highlighting the need to distinguish among them by means of a multiple-state approach.

Gebreslassie (2015) assessed the financial health conditions of selected private commercial banks using Altman Z-score model and estimated the determinants of financial distress using panel data starting from 2002/03 to 2011/12 for six private commercial banks in Ethiopia using panel data regression. Finding of the study indicate that capital to loan ratio, net interest income to total revenue ratio has statistically significant positive influence on financial health of banks whereas the nonperforming loan ratio has statically significant negative influence on the financial health of the banks.

Keasey, Pindado, and Rodrigues (2014) propose a theoretical model that argues that the expected financial distress costs in small- and medium-sized enterprises (SMEs) result from the interaction of the financial distress likelihood and the magnitude of the consequences borne whenever financial failure occurs. The authors reveal that the ex-ante financial distress costs suffered by a firm depend not only on the likelihood of financial distress but also on the variables that influence the amount of time and costs incurred during the insolvency process. Specifically, financial costs are lower where the capacity to use tangible assets as collateral and short-term debt is greater. Additionally, the effect of these variables is moderated by a firm’s ownership and by the nature of the insolvency law in operation. They concluded that the timely management of these variables can avoid the high costs involved in an involuntary exit.

Ika, Nadya and Chordina (2017), examine the Altman Model and auditor’s opinion about going concern of the companies. The samples in this study consist of 59 companies and data variables are taken from the Indonesian Capital Market Directory and annual financial statement reporting. This study utilizes the logistic regression. The results from the logistic regression analysis show that every year in the period of the study 2012-2014, percentage correct of research model are 86,4%, 88.1%, and 93.2% respectively. This research also found that every year in the period of study that there is a negative significant effect on prediction of the Altman model towards the audit going concern opinion. In other word, the more a company predicted secure by Altman Model, the less likely get a going concern audit opinion.

Rafiu, Titilayo and Eghosa (2017), carried out a study, titled: Going Concern and Audit Opinion of Nigerian Banking concern Industry. This paper investigates the relationship between going concern and audit opinion of banks in Nigeria using financial ratio between 2007 and 2012. The

study employed secondary source data collection obtained from published financial statements of selected banks and the Factbooks of Nigerian Stock Exchange. Multivariate regressions were employed to determine the effect of financial ratios used as going concern indices such as deposit to total asset (proxy for liquidity), return on capital employed (profitability measure) solvency, operating cashflow to total liabilities and growth on audit opinion. The result reveal that solvency, liquidity (DPA) and profitability (ROCE) have significant relationships with audit opinion. Furthermore, the study showed that going concern could be a signal of financial distress as it reveals the status and capability of banks to continue in operation.

Mwendamo (2010), Examines the use of Altman’s Z-Score to assess the appropriateness of management’s use of the going concern assumption in the preparation of financial statements. The objective of this paper is to ascertain whether Altman’s Z-Score can aid South African auditors to more accurately assess the appropriateness of management’s use of the going concern assumption in the preparation of financial statements. This is done by applying two corporate failure prediction models developed by Altman to South Africa listed companies. The results indicate that the Z- Score is quite accurate in predicting failure for companies that eventually fail (delisted and liquidated or in the process of being liquidated), with a classification accuracy ranging from 78% to 86%. The EM Score is less accurate with a classification accuracy ranging from 36% to 96%. The classification accuracy of the 2 models for non-failed companies (still in business after a going concern uncertainty report) is very low, but still more accurate than the auditors’ going concern uncertainty classification.

Du & Lai (2018) examines the existence of the contagion effect of low audit quality and further investigates whether financial distress and investment opportunity as two firm-specific financial

characteristics moderate the contagion effect of low audit quality. Using a sample of 7887 firm- year observations from the Chinese stock market over the period of 2007– 2012, the study documents strong and consistent evidence to show that (1) other clients audited by low-quality audit firms have significantly higher discretionary accruals (the existence of the contagion effect);

(2) financial distress reinforces the contagion effect of low audit quality; (3) investment opportunity strengthens the contagion effect of low audit quality; (4) the contagion effect of low audit quality persists over subsequent years for clients, and both financial distress and investment opportunity reinforce the contagion effect of misstatement to future misstatement.

Lu and Ma (2016) empirically examines the relationship between audit quality and financial distress based on Chinese listed firms. The study tends to find out whether high audit quality can reduce the likelihood of financial distress, especially in high growth firms and government owned firms. Results indicate that the quality of the external audit has a negative relationship with financial distress. In addition, for high growth firms, the relationship between audit quality and financial distress is more significant and more than that the association between audit quality and financial problems is moderated by ownership. Overall, the results demonstrate that audit quality is negatively associated with financial distress and their relationship is enhanced in growth firms and state-owned firm suggesting that in China, external auditing is an effective governance mechanism that can be employed to reduce financial crisis.

Knechel and Vanstraelen (2007) examines the effect of auditor tenure on audit quality for private companies in Belgium, an environment where it is believed that auditor tenure is more likely to have a negative effect on audit quality. The author employed the likelihood of auditor issuing a going concern opinion as an indicator of audit quality. Using a sample of stressed bankrupt companies, and stressed nonbankrupt companies, logistic results employed in the study indicate

that auditors do not become less independent over time nor do they become better at predicting bankruptcy. Overall, the evidence for tenure at increasing or decreasing quality is not significant (weak).

The study of Khurshid, Sabir, Tahir and Abrar (2018) is an effort to examine the role of “corporate governance” in the detection of financial distress. In the study, board size, CEO's duality, board independence, insider's directorship, number of board meetings, audit quality, managerial ownership, financial institutions ownership, ownership by investment companies is used as proxies of corporate governance. Secondary data were collected from 154 company annual report for the period between 2009 and 2016. The financial distress is measured using well-known measure i.e Emerging Markets Score (EMS) which is the updated version of Altman's Z Score. The results concluded that board size, insider director's ownership, audit quality, managerial ownership, financial institutions ownership, investment companies' ownership and profitability of firms play significant negative impact on likelihood of financial distress, while CEO's duality, board independence, frequency of board meetings, financial constraints, and financial leverage proved positive and significant on the probability of financial distress.

The objective of Chang and Hwang (2020) is to investigate whether the firm’s financial distress is predictable using artificial intelligence techniques research methods. Hence, the authors analyse whether audit quality is the key factor that affect the occurrence of company’s financial distress in China. Using binary choice model and life test method, their evidences indicates that audit quality of the firm is negatively correlated with the probability of firm’s financial distress which support the fact that firm with higher audit quality would be more likely to reduce the probability of financial distress.

Chen, Yen and Chang (2009) is of the opinion that out of reputation and audit risk considerations, the incumbent auditor may not be willing to accommodate the unreasonable request from the client with deteriorating financial conditions. On the other hand, the client may switch the auditor to solicit a clean audit opinion from the successive auditor. Viewed from such a perspective, the main proposition is that firms with auditor change subsequently have a higher probability of incurring financial distress. In this study financial distress is measured as companies that changes transaction modes of listed stocks, or carried out self-filing for temporary suspension in trading, as a formal announcement of financial distress. The financial distress sample is comprised of publicly traded corporations which are listed on the Taiwan Stock Exchange for the period between 1996 and 2001. The dependent variable is dummy for firms incurring financial distress while the independent variable is dummy for auditor changes. The result provides strong empirical support that the incorporation of the variable ‘auditor change’ can greatly enhance the predictive power of financial distress prediction models.

Salleh, Shauri, Samsudin, Deraman, and Khairuddin (2019) analysed Audit Report of Financial Distress Companies in Malaysia. In this study, companies that fall under financial distress condition are classified as PN17 companies. Out of the 919 companies listed on Bursa Malaysia, a total of 17 companies have fallen under PN17 as at November 2017, representing 1.85% of the total number of 919 companies listed on the Exchange. The overall analysis of this study shows that more than 50% of the PN17 companies in Malaysia are given the unmodified audit report rather than modified audit report. Detailed analysis on pre and post announcement periods of the PN17 status indicated that most of the PN17 companies received disclaimer opinion and qualified opinion in the post-announcement periods. These modified opinions were mostly issued to PN17 companies of trading /services, industrial product and consumers business sectors.

# Theoretical Framework

This section presents theories that help in understanding the relationship that exists between auditor characteristics and audit quality. Hendriksen (1970) defines a theory as a coherent set of theoretical, conceptual, and pragmatic principles forming the general framework of reference for a field of inquiry. The theory is not considered just a simple 'hunch' and it is not a ready concept to be used on-demand or when exceptional scenarios exist. However, a review of the literature reveals three key theoretical frameworks that help explain and analyse the relationship between audit quality and firm going concern. These theories include; Principal-Agent Theory, Economic Bonding Theory and the Theory of Inspired Confidence However, this study anchors on the principal-agent theory propounded by Michael Jensen of the Harvard Business School and William Meckling of the University of Rochester in 1970 as we find it keenly related to our study.

# Principal-Agent Theory

The principal-agent theory refers to a relationship or an arrangement in which one entity legally appoints another to act on its behalf. In a principal-agent relationship, the agent (in this study the auditor) acts on behalf of the principal (Owners/Shareholders) and should not have a conflict of interest in carrying out the act. The relationship between the principal and the agent is called the "agency," and the law of agency establishes guidelines for such a relationship. According to the two-tier principal-agent theory, external audits are an incentive to strengthen public trust in financial accounting. The external audit is a monitoring and bonding instrument for management activities and is meant to motivate legally sound and orderly financial accounting. The audit constitutes an action delegated by the investors of a company in terms of a principal-agent relationship. It is made necessary by the investors’ lack of time and professional resources and the rational apathy in the publicly-owned firm. Specifically, the relationship between the auditor and capital market is reflected in the gatekeeper function (Watts & Zimmerman, 1983). In addition,

the auditor is meant to support the supervisory body or audit committee in supervising the management (assistant role). According to Antle (1982), since the auditor is an economic agent, he can be attributed to the classic agency conflicts of hidden characteristics, information, action, and transfers, resulting in the risks of adverse selection and moral hazard.

Furthermore, Jensen and Meckling (1976) documents that the agency theory deals with incongruence between the interests of principals and their agents. This theory entails the relationship between company personnel, namely, the principals and agents. The principals are those who assign duties to the agents, where they also act to make decisions. In this study, managers who act as agents will certainly try to optimize the company’s financial performance by presenting attractive financial reports to the principals. Both the principals and the agents are assumed to be economically rational and are motivated solely by their self-interest. This can trigger agency conflicts. For this reason, there should be an independent third party to mediate the relationship between the principals and the agents. Auditors are those who are considered capable of bridging the gap between the interests of the principals (shareholders) and the agents (managers) in managing company finances (Praptitorini & Januarti, 2007). An auditor as an independent third party is needed to supervise management’s performance whether managements have acted in accordance with the principal’s interests confirmed through financial statements. The primary responsibility of auditors is to provide an opinion on the fairness of the company’s financial statements and express going concern issues of the company if they raise doubts in the company’s ability to sustain its survival. This study relates to this theory as it has been observed that certain auditors’ attributes (which we intend to ascertain) may impair his ability and freedom to make sound assessments. Specifically, if one or more of these qualities which we outlined in this study

are not well managed this may spur managers interest to alter firm’s financial information which will impede on the firms going concern. (Watts & Zimmerman, 1983).

# Economic Bonding Theory

In literature auditor independence is defined as the (conditional) probability that an auditor will report a discovered breach (Watts & Zimmerman 1986; DeAngelo 1981). It is argued that economic rents associated with audit fees create an economic bond between the auditor and client that can jeopardize auditor’s independence (DeAngelo 1981; Magee & Tseng 1990). Therefore, it is possible that in order to retain these revenues, auditors may compromise their independence leading to impaired quality (DeFond, Raghuandan & Subramanyam 2002; Craswell, Stokes & Laughton 2002; Hope & Langli 2010). The theory of economic bond posits that an economic bond forms between an audit firm and its client when the audit firm’s economic dependence on the client reduces the auditor’s independence, rendering the auditor less willing to resist management pressure (Kinney & Libby, 2002; Kim and Cheong 2009).

According to Svanström, (2013) this form of bonding is inherent and already present when the auditor is appointed, but are further increased if lucrative consulting opportunities are evident”. Economic bonding theory suggests that higher audit fees are suggestive of possible independence issues, auditors receiving higher fees may be less inclined to modify the standard audit report. Prior research suggests that auditors' incentives to retain clients purchasing more profitable non- audit services may threaten audit quality, as they impact the willingness of an auditor to report irregularities. Indeed, the audit function is subject to constant negotiations in which auditors try to perform a fair evaluation of auditees'-related risks, whereas auditees seek unqualified audit reports (Gibbins, Salterio, & Webb, 2001). The negotiation process leads to a joint decision that may encompass making concessions by both auditors and clients (Sahnoun & Zarai, 2009). In various

contexts, it has been required that auditors should identify and evaluate threats to their independence and reduce them to an acceptable level. This study is related to the Economic Bond Theory since we include audit fee as an element of audit quality. In this instance, we note that higher audit fees is a reflection of greater economic bending between the auditor and the client such that we expect a positive effect on bankruptcy level of the firm.

# Theory of Inspired Confidence

This theory was developed in the late 1920s by the Dutch professor Theodore Limperg (Hayes, Schilder, Dassens & Wallage, 1999). Limperg’s theory addresses both the demand for and the supply of audit services. According to Limperg, the demand for audit services is the direct consequence of the participation of outside stakeholders in the company. These stakeholders demand accountability from the management, in return for their contribution to the company. Since information provided by management might be biased, there is the possibility of divergence between the interest of management and outside stakeholders, hence an audit of this information is required. With regard to the level of audit assurance that auditor should provide, (the supply side), Limperg adopts a normative approach. The auditor’s job should be executed in such a way that the expectations of a rational outsider are not thwarted. So, given the possibilities of audit technology, the auditor should do everything to meet reasonable public expectations. The auditor accomplishes the professional task through his judgment in form of reports. In the past, it is claimed that the auditor is responsible for searching, discovering and preventing fraud in his client company which was an early 20th century perception. More recently, the focus of auditors has been to provide reasonable assurance and verify the truth and fairness of the financial statements, though detection of fraud as the auditor’s responsibilities has not diminished.

# Summary of Empirical Findings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Authors and Date of**  **publication** | **Objectives** | **Market Studied** | **Statistical tool** | **Findings** | **Conclusion/ Recommendations** |
| **Chang and** | investigate | China | binary | the evidence indicates that | The authors concluded that |
| **Hwang (2020)** | whether the |  | choice | audit quality of the firm is | the finding supports that |
|  | firm’s |  | model | negatively correlated with | firm with higher audit |
|  | financial |  |  | the probability of firm’s | quality would be more |
|  | distress is |  |  | financial distress. | likely to reduce the |
|  | predictable |  |  |  | probability of financial |
|  | using |  |  |  | distress. |
|  | artificial |  |  |  |  |
|  | intelligence |  |  |  |  |
|  | techniques |  |  |  |  |
|  | research |  |  |  |  |
|  | methods |  |  |  |  |
| **Mukhtaruddi** | examines | Indonesi | logistic | The hypothesis testing |  |
| **n, Handri,** | the effect of | a Stock | regression | showed that company’s |
| **and Inten** | a company's | Exchang |  | financial condition |
| **(2018)** | financial | e (IDX) |  | influences the acceptance |
|  | condition, |  |  | of the going concern audit |
|  | company’s |  |  | opinion, while company’s |
|  | growth, and |  |  | growth and audit quality |
|  | audit quality |  |  | do not influence the |
|  | on |  |  | acceptance of going |
|  | acceptance |  |  | concern audit opinion. |
|  | of going |  |  |  |
|  | concern |  |  |  |
|  | audit |  |  |  |
|  | opinion. |  |  |  |
| **Averio (2020)** | aims to | Indonesi | logistic | The results indicated that | The authors concluded that |
|  | determine | a Stock | regression | leverage positively | leverage positively |
|  | the factors | Exchang |  | affected the going concern | affected the going concern |
|  | that affect | e |  | audit opinion, then the | audit opinion, then the |
|  | the auditor’s |  |  | audit quality, profitability | audit quality, profitability |
|  | going |  |  | and liquidity negatively | and liquidity negatively |
|  | concern |  |  | affected the going concern | affected the going concern |
|  | opinion. |  |  | audit opinion, whereas | audit opinion, whereas firm |
|  |  |  |  | firm size and audit lag did | size and audit lag did not |
|  |  |  |  | not affect the going | affect the going concern |
|  |  |  |  | concern audit opinion. | audit opinion. |
| **Abriyani and** | aims to | Indonesi | logistic | The results suggest that | The authors concluded that |
| **Mohd (2021)** | reexamine | a Stock | regression | previous audit opinions | the findings may be useful |
|  | the factors | Exchang | analysis | have a positive effect on | for investors and creditors |
|  | that | e |  | the acceptance of going | – investors can choose to |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | influence the acceptance of going concern audit opinions |  |  | concern audit opinions, while leverage, opinion shopping and company’s growth do not affect going concern audit opinions. | invest in companies that signal no possibility of bankruptcy and creditors can provide loans only to those companies with credible sustainability (i.e., those without going concern audit opinion). |
| **Susanto** | sought to get | Indonesi | logistic | The result of the research | The authors concluded that |
| **(2018)** | empirical | a Stock | regression | is the management | to meet the expectations of |
|  | evidence | Exchang | analysis | turnover, audit delay, and | management and principal, |
|  | about the | e |  | financial distress have no | the company wants to get |
|  | effect of |  |  | effect on auditor | unqualified opinion. |
|  | management |  |  | switching. While, | Unqualified opinion |
|  | turnover, |  |  | qualified opinion has a | indicates that the financial |
|  | qualified |  |  | significant influence on | statements have been |
|  | opinion, |  |  | auditor switching. | presented fairly without |
|  | audit delay |  |  |  | qualified. If the company |
|  | and |  |  |  | obtains a qualified opinion, |
|  | financial |  |  |  | then the company gets |
|  | distress on |  |  |  | attention from principal |
|  | auditor |  |  |  | especially investor in |
|  | switching. |  |  |  | determining investment |
|  |  |  |  |  | feasibility |
| **Lu and Ma** | empirically | Chinese | logistic | Results from the logistic | The authors concluded that |
| **(2016)** | examines | listed | regression | regression indicate that the | the overall results |
|  | the | firms |  | quality of the external | demonstrate that audit |
|  | relationship |  |  | audit has a negative | quality is negatively |
|  | between |  |  | relationship with financial | associated with financial |
|  | audit quality |  |  | distress. In addition, for | distress and their |
|  | and |  |  | high growth firms, results | relationship is enhanced in |
|  | financial |  |  | show that the relationship | growth firms and state- |
|  | distress |  |  | between audit quality and | owned firms. The findings |
|  | based on |  |  | financial distress is more | suggest that in China, |
|  | Chinese |  |  | significant. Finally, the | external auditing is an |
|  | listed firms. |  |  | association between audit | effective governance |
|  |  |  |  | quality and financial | mechanism to face a |
|  |  |  |  | problems is moderated by | financial crisis. |
|  |  |  |  | ownership. |  |
| **Khaddafi** | aimed to | Indonesi | logistic | Findings indicate that |  |
| **(2015)** | analyze the | a Stock | regression | simultaneous variables |
|  | influence of | Exchang | method | debt default, audit quality |
|  | debt default, | e |  | and audit opinion by the |
|  | audit quality |  |  | jointly affect the |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | and audit |  |  | acceptance of Going |  |
| opinion on | Concern Opinion with a |
| the | significance. While the |
| acceptance | partial results of the |
| of Going | variable debt default, audit |
| Concern | quality and audit opinions |
| Opinion | positive influence on the |
| either | acceptance of Going |
| simultaneou | Concern Opinion. |
| sly or |  |
| partially on |  |
| Manufacturi |  |
| ng |  |
| companies |  |
| listed in |  |
| Indonesia |  |
| Stock |  |
| Exchange |  |
| **Tagesson and** | aims to chart | Sweden | Logistic | The findings indicate that | The authors concluded that |
| **Öhman** | Swedish |  | Regression | Swedish auditors seldom | the analyses identify |
| **(2016)** | auditors’ |  |  | issue GCWs. Moreover, | differences between audit |
|  | likelihood of |  |  | there is a positive | firms (within the group of |
|  | issuing |  |  | relationship between audit | Big 4 firms and within the |
|  | going |  |  | fee level and the | group of other audit firms) |
|  | concern |  |  | likelihood of issuing | in terms of their predictions |
|  | warnings |  |  | GCWs, and Big 4 auditors | of client bankruptcies. This |
|  | (GCWs), |  |  | being more likely to issue | suggests a need for further |
|  | and to |  |  | such warnings than other | investigation of firm- |
|  | investigate |  |  | auditors. | specific differences. |
|  | the |  |  |  |  |
|  | relationship |  |  |  |  |
|  | between |  |  |  |  |
|  | formal |  |  |  |  |
|  | auditor |  |  |  |  |
|  | competence, |  |  |  |  |
|  | audit fees |  |  |  |  |
|  | and audit |  |  |  |  |
|  | firm, |  |  |  |  |
|  | respectively, |  |  |  |  |
|  | and the |  |  |  |  |
|  | likelihood of |  |  |  |  |
|  | issuing |  |  |  |  |
|  | GCWs. |  |  |  |  |
| **Geiger and** | examine the | US |  | They find that the | The authors concluded that |
| **Blay (2018)** | association |  | magnitude of NAS fees | the findings suggest the |
|  | between |  | received in the current | concerns over the relation |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | audit service |  |  | year is negatively related | between auditor fees and |
| fees and | to the likelihood of the | the possible impairment of |
| non-audit | auditor modifying the | auditor independence, as |
| service | audit opinion for going- | reflected in going-concern |
| (NAS) fees | concern uncertainty. | modification decisions, are |
| and the |  | supported in the more |
| auditor’s |  | recent years for highly |
| final |  | distressed clients. |
| decision |  |  |
| regarding |  |  |
| the type of |  |  |
| opinion to |  |  |
| render to a |  |  |
| financially |  |  |
| distressed |  |  |
| client. |  |  |
| **Berglund,** | | demonstrate |  |  | In supplemental analysis, | Conclusively, they find no |
| **Eshleman,** | | how | they find that Big 4 | evidence that the Big 4 are |
| **and Guo** | | properly | auditors are more likely | more or less likely to fail to |
| **(2018)** | | controlling | than mid-tier auditors | issue a going concern |
|  | | for clients' | (Grant Thornton and BDO | opinion to a client that |
|  | | financial | Seidman) to issue going | eventually files for |
|  | | health | concern opinions to | bankruptcy (Type II error). |
|  | | reveals a | distressed clients. They |  |
|  | | positive | also find that, compared to |  |
|  | | relationship | other auditors, the Big 4 |  |
|  | | between | are less likely to issue |  |
|  | | auditor size | false-positive (Type I |  |
|  | | and the | error) going concern |  |
|  | | propensity | opinions. |  |
|  | | to issue a |  |  |
|  | | going |  |  |
|  | | concern |  |  |
|  | | opinion. |  |  |
| **Kaplan** | **and** | challenge |  |  | The authors document that | Overall, the evidence |
| **Williams** |  | the view that | over time, financially | suggests that more |
| **(2012)** |  | larger audit | stressed public companies | recently, larger audit firms, |
|  |  | firms, in | are shifting to regional | relative to regional audit |
|  |  | order to | audit firms, partly due to | firms, acted more |
|  |  | avoid | the actions of larger audit | proactively to lessen their |
|  |  | exposure to | firms shedding these | litigation risks through |
|  |  | litigation, | clients, which | increasing centralization of |
|  |  | report more | represent ex- | client selection and |
|  |  | conservative | ante conservatism. In | acceptance processes. |
|  |  | ly | contrast, audit firm |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | reporting represents ex- post conservatism. |  |
| **Ji and Lee** | examine |  | logistic | the authors find form the | Conclusively, the authors |
| **(2015)** | how | regression | logistic regression that the | find that the positive |
|  | auditors |  | likelihood of issuing a | association above is |
|  | perceive |  | first-time going-concern | reinforced with capital |
|  | managerial |  | modified audit opinion is | market uncertainty. |
|  | overconfide |  | positively associated with |  |
|  | nce during |  | managerial |  |
|  | audit |  | overconfidence, |  |
|  | reporting by |  | suggesting that auditors |  |
|  | testing the |  | adversely value |  |
|  | relationship |  | overconfident |  |
|  | between |  | management in financially |  |
|  | managerial |  | distressed firms and thus |  |
|  | overconfide |  | tend to issue a first-time |  |
|  | nce and the |  | going-concern modified |  |
|  | likelihood of |  | audit opinion to them. |  |
|  | issuing a |  |  |  |
|  | first-time |  |  |  |
|  | going- |  |  |  |
|  | concern |  |  |  |
|  | modified |  |  |  |
|  | audit |  |  |  |
|  | opinion to |  |  |  |
|  | financially |  |  |  |
|  | distressed |  |  |  |
|  | firms |  |  |  |
| **Suroto and** | aimed to |  |  | This study shows similar | This study shows similar |
| **Kusuma** | examine the | results to prior works. The | results to prior works. The |
| **(2017)** | drivers of | result indicates that firms’ | result indicates that firms’ |
|  | the | financial condition and | financial condition and |
|  | likelihood of | profitability significantly | profitability significantly |
|  | the going- | affect the likelihood of the | affect the likelihood of the |
|  | concern | going-concern audit | going-concern audit |
|  | audit | opinion, while firms’ size | opinion, while firms’ size |
|  | opinions. | and leverage are not the | and leverage are not the |
|  |  | determinants of the | determinants of the |
|  |  | intensity of the going | intensity of the going |
|  |  | concern audit opinion | concern audit opinion. |
| **Arsianto and** | aims to test | Indonesi | logistic | Based on this study, the | The authors concluded that |
| **Rahardjo** | and provide | an Stock | regression | findings show that audit | the auditor reputation and |
| **(2013)** | empirical | Exchang |  | tenure, size of the | disclosure did not |
|  | evidence | e |  | company, and previous | significantly influence the |
|  | about the |  |  | year's audit opinion |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | influence of |  |  | significantly influence the | going | concern | audit |
| auditor | going concern audit | opinion. |  |  |
| reputation, | opinion. |  |  |  |
| disclosure, |  |  |  |  |
| audit tenure, |  |  |  |  |
| firm size, |  |  |  |  |
| and the |  |  |  |  |
| previous |  |  |  |  |
| year's audit |  |  |  |  |
| opinion to |  |  |  |  |
| the going |  |  |  |  |
| concern |  |  |  |  |
| audit |  |  |  |  |
| opinion. |  |  |  |  |
| **Pratiwi** | Aims to | Indonesi | logistic | The results show that |  | | |
| **(2018)** | obtain | a Stock | regression | company's growth and the |
|  | empirical | Exchang |  | previous year's audit |
|  | evidence of | e |  | opinion affect to going |
|  | the |  |  | concern audit opinion, |
|  | influence |  |  | while audit tenure doesn't |
|  | company |  |  | affect to going concern |
|  | growth, |  |  | audit opinion. |
|  | audit tenure |  |  |  |
|  | and audit |  |  |  |
|  | opinion of |  |  |  |
|  | the previous |  |  |  |
|  | year to |  |  |  |
|  | going |  |  |  |
|  | concern |  |  |  |
|  | audit |  |  |  |
|  | opinion |  |  |  |
| **Fahmi (2015)** | studied the | Indonesi | logistic | The findings shows that | Conclusively, the authors | | |
|  | effect of | an Stock | regression | prior year audit opinion | submit that audit tenure | | |
|  | audit tenure, | Exchang |  | has significant effect on | and disclosure do not have | | |
|  | prior year | e |  | the going concern audit | significant effect on the | | |
|  | audit |  |  | opinion. | going concern audit | | |
|  | opinion, and |  |  |  | opinion. | | |
|  | disclosure to |  |  |  |  | | |
|  | going |  |  |  |  | | |
|  | concern |  |  |  |  | | |
|  | audit |  |  |  |  | | |
|  | opinion. |  |  |  |  | | |
| **Syahputra** | sought to | BEI | Logistic | Findings show that the | The authors concluded that | | |
| **and Yahya** | know the |  | regression | variable of audit tenure | in terms of the | | |
| **(2017)** | influence of |  | technique | and opinion shopping | simultaneous relation, the | | |
|  | audit tenure, |  |  | affect the going concern | entire research show that | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | audit delay, |  |  | opinion. While the | influential variable is |
| prior | variables of audit delay | significant to the going |
| opinion, and | and prior opinion have no | concern opinion. |
| opinion | effect on the going |  |
| shopping to | concern opinion. |  |
| the going |  |  |
| concern |  |  |
| opinion at |  |  |
| manufacturi |  |  |
| ng |  |  |
| companies |  |  |
| registered in |  |  |
| BEI with |  |  |
| simultaneou |  |  |
| sly as well as |  |  |
| partial |  |  |
| relation |  |  |
| **Simamora &** | examine the | Indonesi | Logistic | The results indicated that |  |
| **Hendarjatno** | effects of | a | Regression | the variables of opinion |
| **(2019)** | audit client |  |  | shopping and leverage |
|  | tenure, audit |  |  | affected the going concern |
|  | lag, opinion |  |  | audit opinion, whereas the |
|  | shopping, |  |  | variables of audit client |
|  | liquidity |  |  | tenure, audit lag and |
|  | ratio and |  |  | liquidity ratio did not |
|  | leverage on |  |  | affect the going concern |
|  | the going |  |  | audit opinion |
|  | concern |  |  |  |
|  | audit |  |  |  |
|  | opinion. The |  |  |  |
|  | study used |  |  |  |
|  | secondary |  |  |  |
|  | data |  |  |  |
|  | obtained |  |  |  |
|  | from |  |  |  |
|  | financial |  |  |  |
|  | reports and |  |  |  |
|  | independent |  |  |  |
|  | audit reports |  |  |  |
|  | published by |  |  |  |
|  | Indonesian |  |  |  |
|  | Stock |  |  |  |
|  | Exchange |  |  |  |
|  | (ISE) as well |  |  |  |
|  | as |  |  |  |
|  | Indonesian |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Capital Market Directory. |  |  |  |  |
| **Cenciarelli,** | investigate | USA |  | They find that firms | In conclusion, the authors |
| **Greco, and** | the |  | audited by industry-expert | held that the results suggest |
| **Allegrini** | relationship |  | auditors, large audit firms | that the auditor attributes |
| **(2018)** | between |  | and long-tenured auditors | can provide predictive |
|  | external |  | are less likely to default. | signals concerning a |
|  | auditor |  | Firms with higher audit | default risk and that an |
|  | characteristi |  | fees are more likely to | external audit can play a |
|  | cs and the |  | default. The authors noted | relevant role in early |
|  | likelihood of |  | that the results also show | warnings of financial |
|  | bankruptcy. |  | that the inclusion of | distress. |
|  |  |  | auditor attributes |  |
|  |  |  | significantly increases the |  |
|  |  |  | predictive ability of |  |
|  |  |  | bankruptcy prediction |  |
|  |  |  | models. |  |
| **Blay, Geiger,** | examine the |  | logistic | Specifically, the author’s | The authors concluded that |
| **and North** | proposition | regression | analyses form the logistic | the results provide |
| **(2011)** | that the |  | regression model reveal | evidence that the market |
|  | auditor's |  | that the market valuation | interprets the going- |
|  | going- |  | is significantly altered | concern modified audit |
|  | concern |  | from a focus on both the | opinion as an important |
|  | modified |  | income statement and | communication of risk that |
|  | opinion is a |  | balance sheet to a balance | results in a substantial shift |
|  | valuable risk |  | sheet-only focus in the | in the structure of the |
|  | communicat |  | year a company receives a | market valuation for |
|  | ion to the |  | first-time going-concern | distressed firms. |
|  | equity |  | modified opinion. |  |
|  | market that |  |  |  |
|  | results in a |  |  |  |
|  | shift of the |  |  |  |
|  | market's |  |  |  |
|  | perception |  |  |  |
|  | of |  |  |  |
|  | financially |  |  |  |
|  | distressed |  |  |  |
|  | firms. |  |  |  |
| **Chen,** | investigate | USA |  | Finnd that the probability | The authors concluded that |
| **Martin, and** | whether |  | of receiving a going- | the negative relation |
| **Wang (2013)** | insider |  | concern opinion is | between going-concern |
|  | selling |  | negatively associated with | opinions and insider sales |
|  | affects the |  | the level of insider selling. | is significantly weakened |
|  | likelihood of |  |  | after SOX. |
|  | firms |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | receiving auditor going- concern opinions. |  |  |  |  |
| **Myers,** | investigate | USA | Logistic | Generally speaking, the | Thus, the authors |
| **Schmidt, and** | whether |  | Regression | authors find that non-Big | concluded that the findings |
| **Wilkins** | audit quality |  |  | N auditors became more | suggest an increased |
| **(2014)** | resulted in a |  |  | conservative while Big N | auditor scrutiny resulting |
|  | change in |  |  | auditors became more | in performance |
|  | auditor |  |  | accurate. | improvements in the area |
|  | behavior |  |  |  | of going concern reporting |
|  | with respect |  |  |  | primarily for larger |
|  | to going |  |  |  | auditors. For smaller |
|  | concern |  |  |  | auditors, improved going |
|  | reporting. |  |  |  | concern accuracy for |
|  |  |  |  |  | subsequently bankrupt |
|  |  |  |  |  | clients came at the cost of |
|  |  |  |  |  | more going concern |
|  |  |  |  |  | opinions being issued to |
|  |  |  |  |  | subsequently non-failing |
|  |  |  |  |  | clients. |
| **Feng and Li** | examine |  |  | Using publicly issued | Taken together, the authors |
| **(2011)** | whether | management earnings | concluded that evidence is |
|  | auditors | forecasts as a proxy for | consistent with auditors |
|  | exercise | earnings forecasts | being professionally |
|  | professional | provided by managers to | skeptical about |
|  | skepticism | auditors, the authors find | management earnings |
|  | about | that management earnings | forecasts when making |
|  | management | forecasts are negatively | going-concern decisions. |
|  | earnings | associated with both |  |
|  | forecasts | auditors’ going-concern |  |
|  | when | opinions and subsequent |  |
|  | making | bankruptcy. |  |
|  | going- |  |  |
|  | concern |  |  |
|  | decisions. |  |  |
| **Gallizo and** | Sought go |  | Logit | The analysis indicates that | They concluded that the |
| **Saladrigues** | in-depth into | analysis | it is not financial decline, | results obtained are |
| **(2016)** | the |  | but rather registering | interesting for the |
|  | relationship |  | losses and being audited | profession and users |
|  | between |  | by a small-scale auditor, | because they provide |
|  | going |  | that increase the | evidence of the reasons that |
|  | concern |  | likelihood of a company | converge in the cases |
|  | audit |  |  | where a going concern |
|  | opinion and |  |  | audit opinion is included in |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | certain characteristi cs of the company and auditor, including financial decline. |  |  | receiving a going concern audit opinion. | the auditing reports of companies characterized by being immersed in a financial crisis. |
| **William and** | examine | USA | Quadratic | Using a quadratic model | They provide evidence that |
| **Ari (2015)** | prior audit |  | Model | to control for potential | long auditor tenure, of |
|  | reports for a |  |  | nonlinearity in the | itself, is not associated with |
|  | sample of |  |  | relationship between | Type II reporting errors. In |
|  | 401 U.S. |  |  | auditor tenure and audit | this respect, the authors |
|  | publicly |  |  | reporting, the authors find | concluded that their |
|  | held |  |  | no significant association | findings may help to |
|  | companies |  |  | between auditor tenure | inform the continuing |
|  | that filed for |  |  | and Type II errors for Big | debate regarding the |
|  | bankruptcy |  |  | 4 audit firms. | possible adverse effects of |
|  | during the |  |  |  | long auditor tenure. |
|  | period |  |  |  |  |
|  | 2002–2008. |  |  |  |  |
| **Hossain,** | investigate | Australia | Heckman | The findings provide | In conclusion, the authors |
| **Chapple, and** | whether an | n listed | two-stage | evidence of differential | held that these behavioral |
| **Monroe** | audit | compani | model | audit outcomes depending | differences have the |
| **(2016)** | partner’s | es |  | on the gender of the audit | potential to influence |
|  | gender is |  |  | partner, thus implying that | perceptions of financial |
|  | associated |  |  | audit partner gender | reporting and audit quality. |
|  | with the |  |  | affects the decision- |  |
|  | likelihood of |  |  | making processes used |  |
|  | issuing a |  |  | when making the audit |  |
|  | going- |  |  | reporting decision. |  |
|  | concern |  |  |  |  |
|  | opinion for a |  |  |  |  |
|  | financially |  |  |  |  |
|  | distressed |  |  |  |  |
|  | client |  |  |  |  |
| **Chae,** | Examines | Japan | logistic | The results suggest also | The authors concluded that |
| **Nakano, and** | the effect of |  | regression | that the firms audited by | the study provides |
| **Fujitani** | financial |  |  | Big4 auditors experience | implications for financial |
| **(2020)** | reporting |  |  | less crash risk, implying | reporting and audit quality |
|  | opacity and |  |  | that the audit quality in | to external stakeholders |
|  | audit quality |  |  | Japan can be one of the | who wants to avoid losses. |
|  | on stock |  |  | factors mitigating firm's |  |
|  | price crash |  |  | crash risk. |  |
|  | risk using |  |  |  |  |

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| --- | --- | --- | --- | --- | --- |
|  | listed firms in Japan |  |  |  |  |
| **Khikmah,** | Aimed at | Indonesi | Panel data | The results showed an | The authors concluded that |
| **Rohman, and** | examining | a | regression | effect of going concern | the implication of the study |
| **Januarti** | and |  |  | opinion, auditor switching | to investigate the financial |
| **(2020)** | analyzing |  |  | and audit reputation on | distress of companies in the |
|  | the impact |  |  | financial distress, | capital market, especially |
|  | of external |  |  | although audit delay had | in relation to the role of |
|  | audit on |  |  | no influence. | external audit was |
|  | financial |  |  |  | achieved |
|  | distress in |  |  |  |  |
|  | Indonesian |  |  |  |  |
|  | manufacturi |  |  |  |  |
|  | ng |  |  |  |  |
|  | companies |  |  |  |  |
| **Simamora** | Sought to | Indonesi | Logistic | Results of the hypothesis | They concluded that the |
| **and** | discover the | an Stock | regression | examination indicated that | results of the hypothesis |
| **Hendarjatno** | effects of | Exchang |  | the variables of opinion | examination indicated that |
| **(2019)** | audit client | e |  | shopping and leverage | the variables of opinion |
|  | tenure, audit |  |  | affected the going concern | shopping and leverage |
|  | lag, opinion |  |  | audit opinion, whereas the | affected the going concern |
|  | shopping, |  |  | variables of audit client | audit opinion, whereas the |
|  | liquidity |  |  | tenure, audit lag and | variables of audit client |
|  | ratio and |  |  | liquidity ratio did not | tenure, audit lag and |
|  | leverage on |  |  | affect the going concern | liquidity ratio did not affect |
|  | the going |  |  | audit opinion | the going concern audit |
|  | concern |  |  |  | opinion. |
|  | audit |  |  |  |  |
|  | opinion. |  |  |  |  |
| **Baimwera** | examine the | Nairobi | Pearson | Liquidity and leverage | The Altman Z score model |
| **and Muriuki** | determinant | Securitie | product | were found to have no | (a multivariate approach) |
| **(2014)** | s of | s | moment | significant influence in | was found to be a |
|  | corporate | Exchang | correlation | determining corporate | significant distress |
|  | financial | e | and | financial distress. | prediction model. |
|  | distress as |  | regression |  |  |
|  | postulated |  | analysis |  |  |
|  | by Altman |  |  |  |  |
|  | (1968) |  |  |  |  |
|  | which are |  |  |  |  |
|  | liquidity, |  |  |  |  |
|  | leverage, |  |  |  |  |
|  | growth and |  |  |  |  |
|  | profitability |  |  |  |  |
|  | in relation to |  |  |  |  |
|  | financial |  |  |  |  |
|  | distress for |  |  |  |  |

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|  | non- financial firms listed in the  Nairobi Securities Exchange |  |  |  |  |
| **Ikpesu (2019)** | attempt to | Nigeria | Fully | Findings from the study | The study concluded that |
|  | answer the |  | modified | showed that leverage, | management needs to set |
|  | basic |  | ordinary | liquidity, profitability, | up control measures that |
|  | research |  | least square | firm size, revenue growth, | will detect early warning |
|  | question on |  | (FMOLS) | and share price are the | signal of financial distress |
|  | what |  |  | firm-specific determinant |  |
|  | actually |  |  | of financial distress of |  |
|  | determines |  |  | firms in the manufacturing |  |
|  | financial |  |  | sector in the country. |  |
|  | distress of |  |  |  |  |
|  | firms in the |  |  |  |  |
|  | manufacturi |  |  |  |  |
|  | ng sector |  |  |  |  |
| **Muñoz‐** | Analyze | Spain | Logit | Specifically, the findings | The authors concluded that |
| **Izquierdo,** | empirically |  | prediction | indicate that the number of | the empirical evidence has |
| **Laitinen**, | the |  | models | disclosures included in the | implications for financial |
| **Camacho‐** | usefulness |  |  | audit report, as well as | distress practice. |
| **Miñano, and** | of |  |  | disclosures related to a |  |
| **Pascual‐** | combining |  |  | firm's going concern |  |
| **Ezama (2017)** | accounting |  |  | status, firms’ assets, and |  |
|  | and auditing |  |  | firms’ recognition of |  |
|  | data in order |  |  | revenues and expenses |  |
|  | to predict |  |  | contribute the most to the |  |
|  | corporate |  |  | prediction |  |
|  | financial |  |  |  |  |
|  | distress. |  |  |  |  |
| **Yanuar** | Aims to | Indonesi | logistic | The results of the study |  |
| **(2018)** | determine | a Stock | regression | indicates that (1) liquidity |
|  | the effect of | Exchang |  | ratio has no significant |
|  | liquidity | e |  | effect on financial |
|  | ratios, |  |  | distress, (2) financial |
|  | financial |  |  | leverage has no significant |
|  | leverage, |  |  | effect on financial |
|  | Operating |  |  | distress, (3) Operating |
|  | income, and |  |  | income has significant |
|  | audit |  |  | effect on financial distress |
|  | committee |  |  |  |
|  | effectivenes |  |  |  |

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|  | on financial distress |  |  |  |  |
| **Anghel,** | investigate | Romania | Structural | These results were | The authors concluded that |
| **Enache, and** | the reaction | & Spain | Vector | obtained under the | consequently, many firms |
| **Merino** | of the |  | Autoregress | circumstances that the | faced a negative |
| **(2020)** | insolvency |  | ive model | analyzed period was | environment that forced |
|  | rate to the |  |  | characterized by the Great | them to go out of the |
|  | various |  |  | Recession and its | market |
|  | shocks in the |  |  | recovery. In this situation, |  |
|  | economies |  |  | firms faced a lesser |  |
|  | of Romania |  |  | demand as well as a |  |
|  | and Spain |  |  | tightening on the |  |
|  | through a |  |  | possibilities of obtaining |  |
|  | Structural |  |  | the external funds they |  |
|  | Vector |  |  | needed, not only to |  |
|  | Autoregressi |  |  | finance their expansion |  |
|  | ve model |  |  | projects but even their |  |
|  |  |  |  | daily operations |  |
| **Yuliyani and** | Determine | Indonesi | logistic | The results showed that |  |
| **Erawati** | the effect of | an Stock | regression | the negative impact of |
| **(2017)** | financial | Exchang | analysis | financial distress on a |
|  | distress, | e (BEI). |  | going concern audit |
|  | profitability, |  |  | opinion, while |
|  | leverage, |  |  | profitability, leverage, and |
|  | and liquidity |  |  | liquidity does not affect |
|  | on a going |  |  | the going concern audit |
|  | concern |  |  | opinion. |
|  | audit |  |  |  |
|  | opinion |  |  |  |
| **Amendola,** | Investigates |  |  | The determinants of | The results reached on a |
| **Restaino,** | the | financial distress for any | sample of Italian firms |
| **Sensini (2014)** | influence | exit route are identified on | provide support for the |
|  | and the | the basis of the influence | hypothesis that the factors |
|  | effect of | on the hazard ratios of the | influencing firms’ way out |
|  | micro- | significant variables | strongly depend on the exit |
|  | economic | selected for each state. | routes and highlighting the |
|  | indicators |  | need to distinguish among |
|  | and firm- |  | them by means of a |
|  | specific |  | multiple-state approach. |
|  | factors on |  |  |
|  | different |  |  |
|  | states of |  |  |
|  | financial |  |  |
|  | distress |  |  |

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| **Gebreslassie** | assessed the | Ethiopia | panel data | Finding of the study |  |
| **(2015)** | financial |  | regression | indicate that capital to |
|  | health |  |  | loan ratio, net interest |
|  | conditions |  |  | income to total revenue |
|  | of selected |  |  | ratio has statistically |
|  | private |  |  | significant positive |
|  | commercial |  |  | influence on the financial |
|  | banks using |  |  | health of banks whereas |
|  | Altman Z- |  |  | the nonperforming loan |
|  | score model |  |  | ratio has statically |
|  | (ZETA |  |  | significant negative |
|  | Analysis) |  |  | influence on the financial |
|  |  |  |  | health of the banks. |
| **Keasey,** | propose a | Europe |  | The authors reveal that the | They concluded that the |
| **Pindado, and** | theoretical |  | ex-ante financial distress | timely management of |
| **Rodrigues** | model that |  | costs suffered by a firm | these variables can avoid |
| **(2014)** | argues that |  | depend not only on the | the high costs involved in |
|  | the expected |  | likelihood of financial | an involuntary exit. |
|  | financial |  | distress but also on the |  |
|  | distress |  | variables that influence |  |
|  | costs in |  | the amount of time and |  |
|  | small- and |  | costs incurred during the |  |
|  | medium- |  | insolvency process. |  |
|  | sized |  |  |  |
|  | enterprises |  |  |  |
|  | (SMEs) |  |  |  |
|  | result from |  |  |  |
|  | the |  |  |  |
|  | interaction |  |  |  |
|  | of the |  |  |  |
|  | financial |  |  |  |
|  | distress |  |  |  |
|  | likelihood |  |  |  |
|  | and the |  |  |  |
|  | magnitude |  |  |  |
|  | of the |  |  |  |
|  | consequence |  |  |  |
|  | s borne |  |  |  |
|  | whenever |  |  |  |
|  | financial |  |  |  |
|  | failure |  |  |  |
|  | occurs. |  |  |  |
| **Ika,Nadya** | Examine the | Indonesi | logistic | The results from the | This research also found |
| **and Chordina** | Altman | an | regression | logistic regression | that every year in the |
| **(2017),** | Model and | Capital |  | analysis show that every | period of study that there is |
|  | auditor’s |  |  | year in the period of the | a negative significant |

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|  | opinion about going concern of the companies. | Market Directory |  | study 2012-2014, percentage correct of research model are 86,4%, 88.1%, and 93.2%  respectively. | effect on prediction of the Altman model towards the audit going concern opinion. |
| **Rafiu, Titilayo and Eghosa (2017)** | Carried out a study, titled: Going Concern and Audit Opinion of Nigerian Banking  concern Industry | Nigeria | Multivariate regressions | The result reveal that solvency, liquidity (DPA) and profitability (ROCE) have significant relationships with audit opinion. | Furthermore, the study showed that going concern could be a signal of financial distress as it reveals the status and capability of banks to continue in operation. |
| **Segun and Ebipanipre (2013)** | Examined, Audit Tenure: An Assessment of its Effects on Audit Quality in Nigeria. | Nigeria | Binary Logit Model | Findings reveal that there is a negative relationship between auditor tenure and audit quality though the variable was not significant. |  |
| **Mwendamo** | Examines | South |  | The results indicate that | The EM Score and the Z- |
| **(2010)** | Use of | Africa | the Z-Score is quite | Score can therefore aid |
|  | Altman’s Z- |  | accurate in predicting | auditors to more accurately |
|  | Score to |  | failure for companies that | assess whether a |
|  | assess the |  | eventually fail (delisted | company’s going concern |
|  | appropriaten |  | and liquidated or in the | is at risk. |
|  | ess of |  | process of being |  |
|  | management |  | liquidated), with a |  |
|  | ’s use of the |  | classification accuracy |  |
|  | going |  | ranging from 78% to 86%. |  |
|  | concern |  | The EM Score is less |  |
|  | assumption |  | accurate with a |  |
|  | in the |  | classification accuracy |  |
|  | preparation |  | ranging from 36% to 96%. |  |
|  | of financial |  | The classification |  |
|  | statements |  | accuracy of the 2 models |  |
|  |  |  | for non-failed companies |  |
|  |  |  | (still in business after a |  |
|  |  |  | going concern uncertainty |  |
|  |  |  | report) is very low, but |  |
|  |  |  | still more accurate than |  |
|  |  |  | the auditors’ going |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | concern uncertainty classification |  |
| **Du & Lai** | examines | Chinese |  |  | Both financial distress and |
| **(2018)** | the |  | the study documents | investment opportunity |
|  | existence of |  | strong and consistent | reinforce the contagion |
|  | the |  | evidence to show that (1) | effect of misstatement to |
|  | contagion |  | other clients audited by | future misstatement. |
|  | effect of low |  | low-quality audit firms |  |
|  | audit quality |  | have significantly higher |  |
|  | and further |  | discretionary accruals (the |  |
|  | investigates |  | existence of the contagion |  |
|  | whether |  | effect); (2) financial |  |
|  | financial |  | distress reinforces the |  |
|  | distress and |  | contagion effect of low |  |
|  | investment |  | audit quality; (3) |  |
|  | opportunity |  | investment opportunity |  |
|  | as two firm- |  | strengthens the contagion |  |
|  | specific |  | effect of low audit quality; |  |
|  | financial |  | (4) the contagion effect of |  |
|  | characteristi |  | low audit quality persists |  |
|  | cs moderate |  | over subsequent years for |  |
|  | the |  | clients |  |
|  | contagion |  |  |  |
|  | effect of low |  |  |  |
|  | audit quality |  |  |  |
| **Lu and Ma** | empirically | Chinese |  | Results indicate that the quality of the external audit has a negative relationship with financial distress. In addition, for high growth firms, the relationship between audit quality and financial distress is more significant and more than that the association between audit quality and financial problems is moderated by ownership | Overall, the results demonstrate that audit quality is negatively associated with financial distress and their relationship is enhanced in growth firms and state- owned firm suggesting that in China, external auditing is an effective governance mechanism that can be employed to reduce financial crisis. |
| **(2016)** | examines |  |
|  | the |  |
|  | relationship |  |
|  | between |  |
|  | audit quality |  |
|  | and |  |
|  | financial |  |
|  | distress |  |
|  | based on |  |
|  | Chinese |  |
|  | listed firms. |  |
|  | The study |  |
|  | tends to find |  |
|  | out whether |  |
|  | high audit |  |
|  | quality can |  |
|  | reduce the |  |
|  | likelihood of |  |
|  | financial |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | distress, especially in high growth firms and government owned firms. |  |  |  |  |
| **Knechel and** |  |  |  |  |  |
| **Vanstraelen** | Examines | Belgium | Using a sample of stressed | Overall, the evidence for |
| **(2007)** | the effect of |  | bankrupt companies, and | tenure at increasing or |
|  | auditor |  | stressed nonbankrupt | decreasing quality is not |
|  | tenure on |  | companies, logistic results | significant (weak). |
|  | audit quality |  | employed in the study |  |
|  | for private |  | indicate that auditors do |  |
|  | companies |  | not become less |  |
|  | in Belgium, |  | independent over time nor |  |
|  | an |  | do they become better at |  |
|  | environment  where it is |  | predicting bankruptcy |  |
|  | believed that |  |  |  |
|  | auditor |  |  |  |
|  | tenure is |  |  |  |
|  | more likely |  |  |  |
|  | to have a |  |  |  |
|  | negative |  |  |  |
|  | effect on |  |  |  |
|  | audit |  |  |  |
|  | quality. |  |  |  |
| **Khurshid,** | examine the |  | Emerging | The results concluded that board size, insider director's ownership, audit quality, managerial ownership, financial institutions ownership, investment companies' ownership and profitability of firms play significant negative impact on likelihood of financial distress, while CEO's duality, board independence, frequency of board meetings, financial constraints, and  financial leverage proved |  |
| **Sabir, Tahir** | role of | Markets |
| **and Abrar** | “corporate | Score |
| **(2018)** | governance” | (EMS) |
|  | in the |  |
|  | detection of |  |
|  | financial |  |
|  | distress. In |  |
|  | the study, |  |
|  | board size, |  |
|  | CEO's |  |
|  | duality, |  |
|  | board |  |
|  | independenc |  |
|  | e, insider's |  |
|  | directorship, |  |
|  | number of |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | board |  |  | | positive and significant on |  |
| meetings, | the probability of financial |
| audit | distress. |
| quality, |  |
| managerial |  |
| ownership, |  |
| financial |  |
| institutions |  |
| ownership, |  |
| ownership |  |
| by |  |
| investment |  |
| companies |  |
| is used as |  |
| proxies of |  |
| corporate |  |
| governance. |  |
| **Chang &** | To |  | Binary |  | Their evidences indicates that audit quality of the firm is negatively correlated with the probability of firm’s financial distress which support the fact that firm with higher audit quality would be more likely to reduce the probability of financial distress. |  |
| **Hwang (2020)** | investigate |  | choice |  |
|  | whether the |  | model | and |
|  | firm’s |  | life | test |
|  | financial |  | method |  |
|  | distress is |  |  |  |
|  | predictable |  |  |  |
|  | using |  |  |  |
|  | artificial |  |  |  |
|  | intelligence |  |  |  |
|  | techniques |  |  |  |
|  | research |  |  |  |
|  | methods. |  |  |  |
|  | Hence, the |  |  |  |
|  | authors |  |  |  |
|  | analyse |  |  |  |
|  | whether |  |  |  |
|  | audit quality |  |  |  |
|  | is the key |  |  |  |
|  | factor that |  |  |  |
|  | affect the |  |  |  |
|  | occurrence |  |  |  |
|  | of |  |  |  |
|  | company’s |  |  |  |
|  | financial | China |  |  |
|  | distress in |  |  |  |
|  | China |  |  |  |

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| **Chen, Yen & Chang (2009)** | Is of the opinion that out of  reputation and audit risk consideratio ns, the  incumbent auditor may not be  willing to accommodat e the  unreasonabl e request from the  client with deteriorating financial conditions. On the other hand, the  client may  switch the  auditor to  solicit a clean audit opinion from the successive auditor.  Viewed from such a perspective, the main proposition is that firms with auditor change subsequentl y have a higher probability of incurring | Taiwan |  | The result provides strong empirical support that the incorporation of the variable ‘auditor change’ can greatly enhance the predictive power of financial distress prediction models. |  |

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| --- | --- | --- | --- | --- | --- |
|  | financial distress |  |  |  |  |
| **Salleh,**  **Shauri, Samsudin, Deraman, and Khairuddin (2019)** | Analysed  Audit Report of Financial Distress Companies in Malaysia. In this study, companies that fall under financial distress condition are classified as PN17  companies. Out of the 919  companies listed on Bursa Malaysia, a total of 17 companies have fallen under PN17 as at  November 2017,  representing 1.85% of the total number of 919  companies listed on the Exchange. | Malaysia |  | The overall analysis of this study shows that more than 50% of the PN17 companies in Malaysia are given the unmodified audit report rather than modified audit report. Detailed analysis on pre and post announcement periods of the PN17 status indicated that most of the PN17 companies received disclaimer opinion and qualified opinion in the post-announcement periods. These modified opinions were mostly issued to PN17 companies of trading /services, industrial product and consumers business sectors. |  |

**Authors Compilation 2021**

# CHAPTER THREE

**METHODOLOGY**

# Introduction

This section explains the methods used to investigate the impact of audit quality on accounting going concern, as well as the rationale for using specific procedures or techniques to identify, select, process, and analyze data to better understand the problem, allowing the researcher to critically assess the study's overall validity and reliability. The research strategies include study population, sample size, and sampling methodologies which are all described in this section. It also explains how the data is collected and how the data is analyzed.

# Research Design

The structure of research can be thought of as research design. It's the "glue" that connects all the pieces of a research project together; in other words, it's a plan for the planned research. “A research design is the creation of conditions for the gathering and analysis of data in a manner that tries to combine relevance to the research purpose with economy and procedure. Longitudinal research will be employed in this study since we aim to establish causal linkages between events and circumstances that have already occurred. In other words, Longitudinal research is employed to determine the reason for a particular event or non-event. This is accomplished by contrasting the circumstances surrounding observable effects and identifying the variables included in the data.

# Population of the Study

Population is any group of individuals that have one or more common characteristics which is of interest to the investigator. The population may be all the individuals of a particular type or a more restricted part of that group. Polit and Hungler (1999) refer to the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. The

population of this study is made up of non-financial companies that are listed on the floor of the Nigerian stock exchange market for the period of 10years ie between 2011 and 2020. As of 31st December 2020, there were 108 non-financial companies listed on the floor of the Nigerian stock exchange market and the distribution is shown below as:

|  |  |  |
| --- | --- | --- |
| Consumer Services Sector | = | 17 |
| Healthcare Sector | = | 10 |
| Basic Materials Sector | = | 11 |
| Consumer Goods Sector | = | 26 |
| Industrial Sector | = | 24 |
| Oil & Gas Sector | = | 13 |
| Technology Sector | = | 07 |
| Total | = | **108** |

**Source:** Nigerian Stock Exchange (NSE) Website.

# Sample

For some studies, the population may be small enough to warrant the inclusion of all of them in the study. But a study may entail a large population which cannot all be studied. That portion of the population that is studied is called a sample of the population (Nworgu, 1991). A sample in this study is a smaller group of elements drawn through a definite procedure from an accessible population such that the elements making up this sample are those that are studied. The process of selecting a portion of the population to represent the entire population is known as sampling (LoBiondo-Wood & Haber 1998; Polit & Hungler 1999).

# Sampling Technique

In this study we derive the sample size from the total population by adopting Krejcie and Morga (1970), sample size computation which is based on p = 0.05 where the probability of committing type I error is less than 5 % or p <0.05. The sample size is computed below:

S = 𝑥2𝑁𝑃(1−𝑃)

𝑑2(𝑁−1) + 𝑥2𝑃(1−𝑃)

S = 1.962 𝑋 108 𝑋 0.5 (1−0.5)

0.052(108−1) + 1.962 𝑋 0.5 (1−0.5)

S = 3.8416 𝑋 108 𝑋 0.5 (1−0.5)

0.0025 (108−1) + 3.8416 𝑋 0.5 (1−0.5)

S = 414.89 𝑋 0.5 (0.5)

0.0025 (108−1) + 3.8416 𝑋 0.5 (1−0.5)

S = 414.89 𝑋 0.5 (0.5)

0.0025 (107) + 3.8416 𝑋 0.5 (0.5)

S = 414.89 𝑋 0.25

0.2675 + 3.8416 𝑋 0.25

S = 103.7225

0.2675 + 0.9604

S = 103.7225

1.2279

S = 84.47

From the above computation, with a population size of 108, the sample size becomes 84. However, to obtain a homogenous sample, we deselect 9 firms that: (a) Did not provide complete annual report information or didn’t disclose the necessary information needed for this study and (b) non- financial firms that were listed after year 2011. Hence, the final sample size which we employ for

this study is 75 non-financial firms listed on the floor of the Nigerian stock exchange market during the period 2011 to 2020.

# Sources of Data Collection

Primary data refers to the first-hand data gathered by the researcher himself. Sources of primary data are surveys, observations, questionnaires, and interviews, while secondary sources are data earlier collected by someone else. Secondary data are the data collected by a party not related to the research study but collected for some other purpose and at different time in the past. Sources of secondary data are government publications websites, books, journal articles, internal records etc. In this study we employed secondary data source, which is been justified in similar studies of Jayeola, Agbatogun and Akinrinlola (2017). The data for the sampled non-financial companies were sourced from the Nigerian Stock Exchange Fact Books and related companies’ Annual Financial Reports for the periods covered in the study.

# Data Analysis Technique

We employ Altman Z-score index to filter the entire sample into Qualified Going Concern Opinion and Un qualified Going Concern Opinion. Panel Least Square Regression Analyses technique was first employed in analyzing the data set and some critical diagnostic tests were conducted to validate the least square regression estimates as prescribed by Gujarati and Porter (2003). First, the assumption of normality of residua which requires that the samples must be drawn from a normally distributed population was tested to rely on the t-statistics. We examined this assumption using Shapiro Wiki test. Second, the assumption of homoscedasticity which requires the variance of the error term among the group of companies to be equal was also evaluated. Third, we test for multicollinearity by employing variance inflation factors (VIF) technique as recommended by Gujarati (2004). We test for the presence of fixed and random effects and relied on the Hausman

specification test to select the most appropriate model. Specifically, the Hausman Specification test result recommend fixed effect model as the most appropriate model hence we adopt Least Square Dummy Variable Estimator (LSDV) to control for the effects. All these efforts are necessary to improve the reliability of the resulting estimates.

# Measuring Concept of Going Concern

This study focuses on concept of going concern which is measured using Edward Altman's Z- Score index: a popular and widely accepted measure of going concern and have also been used to predict corporate defaults. The widely popular Z-score function used for analyzing and predicting bankruptcies was first published in 1968 by Edward I. Altman (Altman, 1968). The Z-score uses multiple inputs from corporate income statements and balance sheets (Statements of Financial Position) to measure the financial status of a company. The inputs which Altman used were twenty- two different financial ratios divided into five categories: Liquidity, Profitability, Leverage, Solvency and Activity. The different ratios were combined into a single measure known as Z- Score. The formula used to evaluate the Z-Score as established by Altman is as follows:

# Z = 0.012X1 + 0.014X2 + 0.033X3 + 0.006X4 + 0.999X5

**“Z"** is the overall index and the variables

**X1 to X4** are computed as absolute percentage values

**X5** is computed in number of times.

The following accounting ratios are used as variables to combine them into a single measure (index) which is efficient in predicting financial distress.

X1 - The ratio of working capital to total assets (WC/TA\*100), It is the measure of the net liquid assets of a concern to the total capitalization.

X2 - The ratio of net operating profit to net sales (NOP/S\*100). It indicates the efficiency of the management in manufacturing, sales, administration, and other activities.

X3 - The ratio of earnings before interest and taxes to total assets (EBIT/ TA\*100). It is a measure of productivity of assets employed in an enterprise. The ultimate existence of an enterprise is based on the earning power (profitability).

X4 - The ratio of market value of equity to book value of debt (MVE/ BVD \*100). It is the reciprocal of the familiar debt-equity ratio. Equity is measured by the combined market value of all shares while debt includes both current and long-term liabilities. This measures the extent to which the assets of an enterprise can decline in value before the liabilities exceed the assets and the concern becomes insolvent.

X5 - The ratio of sales to total assets (S/TA). The capital turnover ratio is a standard financial measure for illustrating the sales generating capacity of the assets.

# Table 3.1 Edward Altman Guidelines

|  |  |  |  |
| --- | --- | --- | --- |
| **Situation** | **Z-Score** | **Zones** | **Results** |
| I | Below 1.8 | Bankruptcy Zone | Failure is certain |
| II | 1.8 to 3 | Healthy Zone | May or may not fail |
| III | Above 3 | Too Healthy | Will not fail |

**Source;** Varghese and Panigrahi (2019)

# From the table above,

1. A firm with Z-Score below 1.8 is in Qualified Audit Opinion Zone.
2. If a firm has a Z-Score between 1.8, and 3, its audit opinion zone is uncertain to predict**.**
3. Z-Score of above 3 implies that the firm is in Qualified Audit Zone.

Although there has been much criticism regarding the effectiveness of Z-score models, but Z-score model continues to be used in a variety of business situation from actual bankruptcy to other

financial distress conditions. It has been applied as management decision tool and as an analysis tool by auditors to assess clients’ ability to continue as going concern (Grice & Ingram, 2001).

# Model Specification

The model for this study is adopted from the studies of Foroghi and Shahshahani (2012); Geiger and Rama, (2006), but modified to suit the hypotheses of this study which centres on the effect of audit quality on Concept of going concern of listed non-financial companies in Nigeria. The specified econometric form is stated as:

**ACGCit =** **0 +** **1AudFsizeit +** **2AudTenit +** **3AudFeeit +** **4JoinAudit +** **4AudLagit + πit (1)**

**ZUAOit =** **0 +** **1AudFsizeit +** **2AudTenit +** **3AudFeeit +** **4JoinAudit +** **4AudLagit + πit (2)**

**ZQAOit =** **0 +** **1AudFsizeit +** **2AudTenit +** **3AudFeeit +** **4JoinAudit +** **4AudLagit + πit (3)**

# Where:

**Dependent Variables**

|  |  |  |
| --- | --- | --- |
| ACGC | = | Accounting Going Concern (Altman Z-score) |
| ZUAO | = | Altman Z score for unqualified audit opinion |
| ZQAO | = | Altman Z score for qualified audit opinion |
| **Independent Variables** | | |
| AudFSize | = | Audit Firm Size |
| AudTen | = | Auditors Tenure |
| AudFee | = | Auditors Fee |
| JointAud | = | Joint Auditor |
| AudLag | = | Auditors Report Lag |

# Control Variables

Lev = Leverage

“i" for cross sections (non-financial listed firms sampled in the study) “t” for time period

**πit** for error term**.**

# Operationalization of Variables

The operational definitions of the variables used in the study, i.e., the dependent and independent variables have been tabulated below;

# Table 3.2: Operationalization of Variables and Justification

|  |  |  |
| --- | --- | --- |
| **Variables** | **Measurement** | **Source** |
| Accounting Going Concern  (Dependent Variable) | Altman (1968) Z Score | Elloumi Gueyié (2001) |
| Audit Firm Size (Independent Variable) | Big4 auditors in Dummy (1,0) is computed as "1" for companies that hire PWC, Deloitte, E&Y and  KPMG as external auditors and "0" otherwise | Foroghi & Shahshahani (2012) and Geiger & Rama, (2006) |
| Auditors Tenure (Independent Variable) | Auditors Tenure is computed as "1" for companies that hired external auditor that stayed for 3 years and "0" for auditors with less than 3  years engagement | Foroghi & Shahshahani (2012) and Geiger & Rama, (2006) |
| Auditor’s Fee (Independent Variable) | Auditor’s Fee is the amount paid to auditors. | Foroghi & Shahshahani (2012) and Geiger & Rama, (2006) |
| Joint Auditors (Independent Variable) | Joint auditor is computed as "1" for companies that more than 1 auditors and "0" for auditors with less than 3 years engagement | Foroghi & Shahshahani (2012) and Geiger & Rama, (2006) |
| Auditors Report Lag (Independent Variable) | Audit Report Lag in Days is the difference in the date between when a company external auditor signs a company annual audited report and the company accounting year end date. | Foroghi & Shahshahani (2012) and Geiger & Rama, (2006) |
| Leverage (Control Variable) | Debt to Total Asset in percentage is computed as total liabilities divided by Total asset | Foroghi & Shahshahani (2012) and Geiger & Rama, (2006) |

**Source: Researcher’s Compilation 2021**

# CHAPTER FOUR

# DATA PRESENTATION AND ANALYSIS

# Introduction

In this chapter we make presentation of the results obtained from the various analysis and provide vivid explanations (interpretation) on all of them.

# Presentation of Result

This study explores audit quality and concept of going concern of listed non-financial firms in Nigeria considering audit quality proxies that includes Audit Firm Size, Audit Tenure, Audit Fee, Joint Audit and Audit Delay which also represented the independent variables and Concept of Going Concern which is the dependent variable is proxy using Z score introduced by Edward Altman in 1968. To improve the efficiency of the model we employed a control variable; leverage for a panel data set which span through the periods of 2011 – 2020. First, in identifying the possible likelihood effect of audit quality on Concept of going concern, we conduct descriptive statistics, correlation matrix, normality of residua test, and logistic regression analysis. The results are analyzed as follows: table 4.1a shows a summarized descriptive statistic which displays the mean (average), standard deviation, maximum, minimum, and sum for each of the variables of interest based on the time period (2011 to 2020) while table 4.1b describe the statistics based on the sectors of interest. Overall, the tables below provide summary statistics of the data set which we employed in the study and reveals some insight into the nature of the selected Nigerian listed non-financial companies that were employed in this study.

# Table 4.1a Descriptive Statistics (Summarized)

**Variable | Obs Mean Std. Dev. Min Max**

**-------------+---------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **zscore** | **|** | **578** | **2.440346** | **4.357568** | **-7.23** | **74.81** |
| **acgc** | **|** | **581** | **.6179002** | **.4863195** | **0** | **1** |
| **big4** | **|** | **576** | **.5399306** | **.4988362** | **0** | **1** |
| **audt** | **|** | **576** | **.7621528** | **.4261352** | **0** | **1** |
| **afrr** | **|** | **575** | **.6077085** | **3.616393** | **0** | **54.8446** |
| **jota** | **|** | **576** | **.0364583** | **.1875906** | **0** | **1** |
| **adly** | **|** | **571** | **114.4921** | **86.94766** | **28** | **934** |
| **deta** | **|** | **578** | **67.75903** | **43.7215** | **1.43** | **450.25** |

# Authors Computation 2021

The table above shows a summarized result of the descriptive statistics. From the table we find that on average, Altman z-score for the firms under study is 2.44 with a standard deviation of 4.36. We also find that on average about 62% of the firms in our sample were in financial distress using the Altman criteria. However, only 38% of the firms in our sample constitute those in the healthy zone. Similarly, we find that on average 54% of the firms in our sample engaged the services of Big4 auditors with 76% of them abiding by the provision of Security and Exchange Commission as regards auditors’ tenure. On average, the table also shows that audit fee is 0.61 with a standard deviation of 3.16. However, about 4% of the firms under study were jointly audited while it took 114 days on average for the auditor to sign the financial statement of the firms in our study. The Control Variable of leverage is seen to be 67.76 on average, with a standard deviation of 43.72 during the period under investigation.

# Table 4.1b Summary statistics: mean, sd, min, max, sum by categories of: sector (Sector)

**sector | zscore acgc big4 audt afrr jota adly deta**

**-----------------+--------------------------------------------------------------------------------**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agriculture |** | **2.602857** | **.5517241** | **.2758621** | **.7241379** | **.3075828** | **0** | **116.3103** | **60.42964** |
| **|** | **2.932725** | **.5061202** | **.4548588** | **.4548588** | **.4316578** | **0** | **70.11526** | **32.49349** |
| **|** | **-1.24** | **0** | **0** | **0** | **.085** | **0** | **51** | **17.79** |
| **|** | **8.42** | **1** | **1** | **1** | **2.3221** | **0** | **317** | **141.58** |
| **|** | **72.88** | **16** | **8** | **21** | **8.9199** | **0** | **3373** | **1692.03** |
| **Conglomerate | 1.275897 .8461538 .4871795 .6923077 .3375821 0 116.4872** | | | | | | | | **----------**  **61.30769** |
| **|** | **1.502081** | **.3655178** | **.5063697** | **.4675719** | **.5115721** | **0** | **79.62341** | **24.47333** |
| **|** | **-.39** | **0** | **0** | **0** | **.0268** | **0** | **46** | **16.56** |
| **|** | **6.85** | **1** | **1** | **1** | **3.1276** | **0** | **457** | **107.5** |
| **|** | **49.76** | **33** | **19** | **27** | **13.1657** | **0** | **4543** | **2391** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Construction & R |** | **.66** | **1** | **.65** | **.75** | **.289065** | **0** | **85.55** | **70.7365** |
| **|** | **.8659646** | **0** | **.4893605** | **.4442617** | **.3439207** | **0** | **15.6994** | **17.74831** |
| **|** | **-1.32** | **1** | **0** | **0** | **.0292** | **0** | **57** | **47.05** |
| **|** | **1.71** | **1** | **1** | **1** | **1.2** | **0** | **127** | **91.54** |
| **|** | **13.2** | **20** | **13** | **15** | **5.7813** | **0** | **1711** | **1414.73** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Consumer Goods |** | **4.064957** | **.3760684** | **.7692308** | **.7948718** | **.1370179** | **.0683761** | **94.03419** | **60.3588** |
| **|** | **3.95335** | **.486481** | **.4231372** | **.405532** | **.2403628** | **.2534757** | **62.58194** | **26.49362** |
| **|** | **-2.04** | **0** | **0** | **0** | **0** | **0** | **36** | **4.28** |
| **|** | **26.07** | **1** | **1** | **1** | **1.5417** | **1** | **456** | **156.28** |
| **|** | **475.6** | **44** | **90** | **93** | **16.0311** | **8** | **11002** | **7061.98** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Healthcare |** | **1.563171** | **.7317073** | **.4634146** | **.804878** | **.4406902** | **0** | **91.875** | **53.30366** |
| **|** | **1.893757** | **.448575** | **.5048545** | **.4012177** | **.5206726** | **0** | **21.51945** | **16.33805** |
| **|** | **-2.13** | **0** | **0** | **0** | **.0836** | **0** | **55** | **23.26** |
| **|** | **6.33** | **1** | **1** | **1** | **2.3226** | **0** | **149** | **106.94** |
| **|** | **64.09** | **30** | **19** | **33** | **18.0683** | **0** | **3675** | **2185.45** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **ICT |** | **2.24907** | **.8139535** | **.372093** | **.7674419** | **.1825605** | **0** | **127.4186** | **65.61605** |
| **|** | **4.127357** | **.3937496** | **.4890835** | **.4274626** | **.0760933** | **0** | **108.9067** | **32.9359** |
| **|** | **-1.45** | **0** | **0** | **0** | **.066** | **0** | **37** | **13.7** |
| **|** | **24.84** | **1** | **1** | **1** | **.3504** | **0** | **514** | **136.71** |
| **|** | **96.71** | **35** | **16** | **33** | **7.8501** | **0** | **5479** | **2821.49** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Industrial Goods |** | **3.346197** | **.4647887** | **.7323944** | **.7183099** | **.4915071** | **.1267606** | **94.21429** | **62.68423** |
| **|** | **3.801047** | **.5023086** | **.4458618** | **.4530247** | **.8588863** | **.3350726** | **26.28379** | **30.06486** |
| **|** | **-3.42** | **0** | **0** | **0** | **.035** | **0** | **57** | **1.43** |
| **|** | **16.85** | **1** | **1** | **1** | **6.6286** | **1** | **227** | **171.38** |
| **|** | **237.58** | **33** | **52** | **51** | **34.4055** | **9** | **6595** | **4450.58** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Natural Resource |** | **1.176765** | **.6176471** | **.2121212** | **.9090909** | **6.023158** | **0** | **170.5625** | **58.66294** |
| **|** | **2.019868** | **.4932702** | **.4151488** | **.2919371** | **14.1053** | **0** | **207.9522** | **30.38724** |
| **|** | **-1.4** | **0** | **0** | **0** | **.0584** | **0** | **53** | **11.7** |
| **|** | **4.2** | **1** | **1** | **1** | **54.8446** | **0** | **934** | **138.28** |
| **|** | **40.01** | **21** | **7** | **30** | **198.7642** | **0** | **5458** | **1994.54** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Oil & Gas |** | **3.559836** | **.4590164** | **.6779661** | **.7457627** | **.1058203** | **0** | **106.5345** | **84.80951** |
| **|** | **9.518447** | **.502453** | **.4712667** | **.4391693** | **.2303978** | **0** | **46.44907** | **68.33736** |
| **|** | **-3.2** | **0** | **0** | **0** | **.0089** | **0** | **28** | **6.34** |
| **|** | **74.81** | **1** | **1** | **1** | **1.0681** | **0** | **296** | **450.25** |
| **|** | **217.15** | **28** | **40** | **44** | **6.2434** | **0** | **6179** | **5173.38** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Services |** | **1.157581** | **.7857143** | **.3790323** | **.7419355** | **.3242169** | **.0322581** | **141.1382** | **80.48016** |
| **|** | **2.052553** | **.4119639** | **.4871143** | **.4393448** | **.3511421** | **.1774015** | **96.24689** | **62.02549** |
| **|** | **-7.23** | **0** | **0** | **0** | **.0336** | **0** | **64** | **11.19** |

**-----------------+----------------------------------------------------------------------**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **|** | **5.45** | **1** | **1** | **1** | **1.9578** | **1** | **538** | **395.45** |
| **|** | **143.54** | **99** | **47** | **92** | **40.2029** | **4** | **17360** | **9979.54** |

**-----------------+--------------------------------------------------------------------------------**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total |** | **2.440346** | **.6179002** | **.5399306** | **.7621528** | **.6077085** | **.0364583** | **114.4921** | **67.75903** |
| **|** | **4.357568** | **.4863195** | **.4988362** | **.4261352** | **3.616393** | **.1875906** | **86.94766** | **43.7215** |
| **|** | **-7.23** | **0** | **0** | **0** | **0** | **0** | **28** | **1.43** |
| **|** | **74.81** | **1** | **1** | **1** | **54.8446** | **1** | **934** | **450.25** |
| **|** | **1410.52** | **359** | **311** | **439** | **349.4324** | **21** | **65375** | **39164.72** |

**--------------------------------------------------------------------------------------------------**

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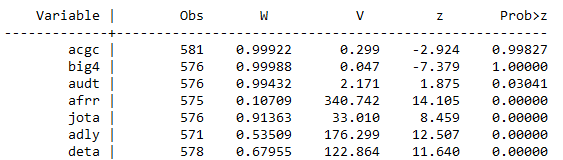
The table above, shows the descriptive statistics of this study by category of sector. From the table, we find that on average, Z-score was higher for firms in the consumer goods (4.06), oil and gas (3.56), industrial goods (3.34), and Agriculture sector (2.60) compared to firms in the construction sector (0.66), services sector (1.16), and Natural resources (1.18). The table also shows that on average, using the Z-score criteria to sort the firms, firms in the conglomerate sector (85%) were seen to be more financially distressed, closely followed by those in the ICT sector (81%) before those in the service sector (79%). However, the same criteria adjudge that firms in the construction sector (90%) were financially healthier followed by those in the consumer goods (63%). Further, for the variable of audit firm size, the table reveals that on average, more of the firms in the consumer goods sector (77%) engaged the services of big4 auditors followed by those in the industrial goods sector (73%). A closer look at the descriptive statistics table reveals that more than half of the firms in all the sectors under study implemented the SEC regulation on auditor tenure. However, in terms of audit fee, we find that firms in the natural resources (6.02) paid more on average compared to those in the oil and gas (0.10) that paid the least. On average, we find that only firms in the consumer goods sector (7%), industrial goods (13%), and those in the services sector (3%) had their accounts jointly audited while it took auditors 170days to sign the annual report for firms in the natural resources sector. Overall, we find that on average only the firms within the construction sector (86 days) had their financial report signed within the 90days requirement of firms having their account signed by the auditor. For the control variable, we find

that firms in the services sector (80.48) finance their operations through debt compared to those in the healthcare (53.30).

# Test for Normality of Residua

The assumption to make when testing for data normality residua is that “sample distribution is normal”. Hence, the distribution is not normal if the test is significant at 5% or less. This study adopts the Shapiro-Wilk test for normality test procedure for n =10 to n =2000 which is in line with the position of Razali and Wah (2011). Consequently, we conduct the test for normality of residua as shown in the table below:

# Table 4.2 Shapiro Wilk Test for Normality of Residua



**Authors Computation 2021**

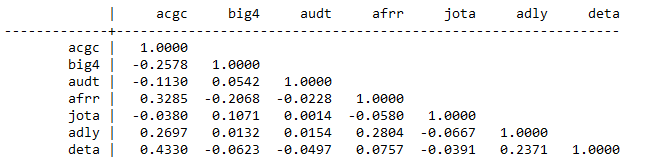
From the results obtained above, we find that Concept of going concern (Prob > z = 0.99827) as the dependent variable of model 1 (combined model) is statistically insignificant at 1% or 5% level, hence, it is normally distributed. Similarly, we find that the independent variable of Big4 auditors (Prob > z = 1.00000) is also normally distributed. However, we find that the independent variables of audit tenure (Prob > z = 0.03041), audit fees (Prob > z = 0.00000), joint auditor (Prob

* z = 0.00000), audit delay (Prob > z = 0.00000) as well as the control variable of leverage (Prob
* z = 0.00000) are not normally distributed since the probability of the z-statistics provided by the Shapiro wilk test for normality is significant at 1% level. We justify this interpretation following the study of Bera and Jarque (1982).

# Correlation Analysis

With non-normal data which the test result reveals, alternatives to the Pearson approach might be justified. The robustness of Spearman’s versus Pearson’s test has received relatively less empirical scrutiny. In one of the few studies, Fowler (1987) found that Spearman’s r was more powerful than Pearson’s across a range of non-normal bivariate distributions. The power benefit of Spearman’s may be the result of rank-ordering causing outliers to contract toward the centre of the distribution (Gauthier, 2001). Upon this understanding and since the data set followed a non-normal distribution, we employ the Spearman Rank Correlation technique to conduct the possible association between the variables of interest as shown in the table below.

# Table 4.3 Spearman Rank Correlation Result



**Authors Computation 2021**

Specifically, the analysis from the spearman rank correlation showed that big4 auditors (-0.2578), auditors’ tenure (-0.1130), and joint auditors (-0.0380) are negatively correlated with the dependent variable, Concept of going concern. However, we find that audit fee (0.3285), audit delay (0.2697) and the control variable of leverage (0.4330) are positively correlated with the dependent variable, Concept of going concern. However, the associations are seen to be weak hence there is no room to suspect the presence of multicollinearity in the estimated model.

# Regression Analysis

According to McManus, (2011) general linear model is the foundation of linear panel model estimation and least square estimators are consistent when the explanatory variables are exogenous

and optimal in the class of linear unbiased estimators with homoscedastic and serially uncorrelated errors. When these conditions hold, the method of least squares produces minimum-variance and mean-unbiased estimation. To ascertain the best estimator, we first carry out panel least square regression estimation for the second (qualified audit opinion zone) and third (unqualified audit opinion zone) models based on the nature of the dependent variable which is (continuous in nature) and proceed to check for possible regression errors. The results obtained from the panel least square regression for the second and third model are shown in the table below as:

# Table 4.4 Panel Least Square Regression Estimates (Unqualified & Qualified Audit Opinion Zones)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **Audit Firm Size** | **Auditor’s Tenure** | **Auditor’s Fees** | **Joint Audit** | **Audit Delay** | **Leverage** |
| **Second Model (Unqualified Audit Opinion Zone)** | | | | |  |  |
| **Coefficient** | 1.810 | 0.308 | -0.694 | -0.757 | 0.002 | -0.062 |
| **t\_ Statistics** | (2.09) | (0.31) | (-0.69) | (-0.42) | (0.20) | (-3.25) |
| **Probability\_t** | {0.038) \*\* | {0.757) | {0.493) | {0.678} | {0.840) | {0.001) \*\* |
| **No. of Obs. = 217; Prob. F statistics = 0.0285; R2 = 0.0644; Mean VIF: 1.04; Hettest: 0.0000** | | | | | | |
| **Third Model (Qualified Audit Opinion Zone)** | | | | |  |  |
| **Coefficient** | 0.116 | -0.076 | -0.046 | 0.237 | -0.001 | -0.013 |
| **z\_ Statistics** | (1.07) | (-0.64) | (-3.97) | (0.77) | (-1.70) | (-11.49) |
| **Probability\_z** | {0.287} | {0.523} | {0.000) \* | {0.441) | {0.091) | {0.0000) \* |
| **No. of Obs. = 351; Prob. F statistics = 0.0000; R2 = 0.3430; Mean VIF: 1.04; Hettest: 0.0000** | | | | | | |

***Note: t -statistics and respective probabilities are represented in () and {} Where: \*\* represents 5% & \* represent 1% level of significance* Source: Authors’ Computations (2021)**

# Regression Diagnostic Test

To validate the results obtained from the ordinary least square regression estimator, we conduct some diagnostic test. Particularly, we note that regression estimate validation is the process of deciding whether the numerical results quantifying hypothesized relationships between variables obtained from regression analysis are acceptable as descriptions of the data. The validation process can involve analysing the goodness of fit of the regression and analysing whether the regression residuals are random. In this study we analyse the goodness of fit as well as check whether the

regression residuals are random by carrying out test for, homoscedasticity, multicollinearity, and the test for fixed and random effects.

# Test for Multicollinearity

Multicollinearity is a problem when the independent variables are not independent. If the degree of multicollinearity between variables is extremely high (perfect correlation), it can cause problems when you fit the model. Hence, multicollinearity occurs when the explanatory variables in a regression model are perfectly correlated suggesting a strong relationship between the independent's variables. In this study like in most other related studies, we employ the variance inflation factor (VIF) technique to diagnose the presence or absence of multicollinearity. A cut-off value of 0.44 is given for regarding a VIF as high. This is consistent with the recommendation of Gujarati (2004) which allows VIF to be less than 5. However, our result showed that VIF is less than five (5) for all independent.

# Test for Homoscedasticity

We conduct this test by employing the Breusch Pagan module in Stata 15. The assumption of homoscedasticity states that if the errors are heteroscedastic then it will be difficult to trust the standard errors of the least square estimates. Hence, the confidence intervals will be either too narrow or too wide. The result obtained from the regression estimates of models two and three as shown in the table above reveals a probability value of (P-value: 0.000). This result indicates that the assumption of homoscedasticity has been violated since we observe very low P-values which is statistically significant at 1% level. However, we switch estimator to control for heteroscedasticity by employing fixed effect estimator as recommended by Greene, (2003).

# Test for Fixed and Random Effects

Since the assumption of homoscedasticity is violated in the panel ordinary least square estimator, Wallace and Hussain estimator of component variances (a two-way random and fixed effects panel) is performed at a 0.05 level of significance. Over time, when this tool is applied researchers are usually faced with the option of choosing between using the fixed-effect panel model or the random-effect panel model. As noted by Ajibolade and Sankay (2013), the fixed-effects model which is the main technique for analysis of panel data is employed when it becomes important to control for omitted variables that differ between cases but are constant over time. It allows the use of the changes in the variables over time to estimate the effects of the predictor (independent) variables on the outcome (dependent) variable. On the other hand, the random-effects model is employed when there are reasons to believe that some omitted variables may be constant over time but vary between the variables, and others may be fixed between cases but vary over time. Therefore, to justify the choice of model, the Hausman specification test is largely suggested by scholars (Gujarati, 2004). The Hausman specification test checks for a more efficient model against a less efficient but consistent model. It ensures that the more efficient model also gives consistent results.

The result reveals presence of fixed effect in the unqualified audit opinion model but random effect is seen to be absent hence the need for Least Square Dummy Variable Regression estimator while we resorted to the **“hausman”** specification test to decide which of the models is better between the fixed and the random effect particularly for firms within the qualified audit opinion zone. The result from the hausman test implies that we should accept the alternate hypothesis since the p- values is (0.0000) which is significant at 1% level. This suggests that the fixed effect results tend to be more appealing statistically when compared to the random effect results. Particularly, we

note that the fixed effect is a problem since a test for fixed effect is to confirm whether or not the variables employed are fixed over time (Ajibolade and Sankay, 2013). Hence, to control for fixed effect problems, we employed the Least Square Dummy Variable Regression as recommended by Greene (2003)

# Least Square Dummy Variable Regression

In panel data models, dummy variables may be introduced to the least squares to explain the effect of each individual unit of a cross section which is unobserved to correctly specify the model of interest. Just like the ordinary least square regression, the Least Square Dummy Variable (LSDV) estimator is also applied to the equations in level form and all the cross section is applied in the actual estimation (Islam, 1994 and Greene, 2003). It can give estimates of variances of αit and εit separately. In the Least Square Dummy Variable estimation, the individual effect is assumed to be fixed over time in each individual. The fixed effects model is a useful specification for explaining cross section heterogeneity in panel data. The LSDV is generally implemented by the insertion of relevant dummies but being mindful of the dummy variable trap and application of ordinary least square estimator on the enlarged model. From the foregoing, this study adopts the LSDV to correct for the fixed effect that is present in both models of qualified and unqualified audit opinion as presented below:

# Table 4.5 Least Square Dummy Variable Regression Estimate

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **Audit Firm Size** | **Auditor’s Tenure** | **Auditor’s Fees** | **Joint Audit** | **Audit Delay** | **Leverage** |
| **Second Model (Unqualified Audit Opinion Sample)** | | | | |  |  |
| **Coefficient** | 1.448 | 1.470 | 5.249 | 0.358 | -0.012 | -0.209 |
| **t\_ Statistics** | (0.56) | (1.43) | (0.60) | (0.06) | (-0.99) | (-6.95) |
| **Probability\_t** | {0.577} | {0.154} | {0.549} | {0.949} | {0.321} | {0.000} \* |
| **No. of Obs. = 217; Prob. F statistics = 0.0006; R2 = 0.4166** | | | | | | |
| **Third Model (Qualified Audit Opinion Sample)** | | | | |  |  |
| **Coefficient** | 0.218 | -0.093 | -0.026 | 0.122 | -0.001 | -0.006 |
| **z\_ Statistics** | (1.39) | (-0.90) | (-2.23) | (0.26) | (-1.37) | (-5.59) |
| **Probability\_t** | {0.164} | {0.370} | {0.027} \*\* | {0.793} | {0.172} | {0.0000} \* |
| **No. of Obs. = 351; Prob. F statistics = 0.0000; R2 = 0.6813** | | | | | | |

***Note: t & z -statistics and respective probabilities are represented in () and {} Where: \*\* represents 5% & \* represent 1% level of significance***

# Source: Authors’ Computations (2021)

From the tables shown above, the least square dummy variable estimator reveals an *R2* value of 0.4166 for the unqualified audit opinion sampled firms which indicates that about 42% of the variation in the dependent variable is explained by all the independent and control variables in the model. It also means that about 58% of the variation in the dependent variable is left unexplained but have been captured in the error term. Similarly, for the qualified audit opinion sampled firms, we find an *R2* value of 0.6813 which indicates that about 68% of the variation in the dependent variable was explained by all the independent and control variables in the model. It also means that about 32% of the variation in the dependent variable is left unexplained but had been captured in the error term. Clearly, this result suggests that these variables of interest better explain the qualified audit opinion model than the unqualified audit opinion model particularly for the period under investigation. Further, with respect to the model’s goodness of fit as captured by the Fisher statistics {1.95, Prob. 0.0006} shows a 5% statistically significant level reveals that the entire model is fit and can be employed for discussion. For the qualified audit opinion sampled firms, the

model’s goodness of fit as captured by the Fisher statistics {8.86, Prob. 0.0000} at 1% statistically significant level shows that the entire model is equally fit and can be employed for discussion.

**2.2.6 Discussion of Findings (Qualified & Unqualified Audit Opinion Sampled Firms)** Particularly, the Least Square Dummy Variable Estimator reveals that audit firm size does not significantly improve going concern status of firms in both qualified and unqualified audit opinion zones. However, the variable of auditor’s tenure has an insignificant effect on going concern status for firms within the unqualified and qualified audit opinion zones. The results of the variable of audit fees as provided by the Least Square Dummy Variable Estimator reveal a positive insignificant effect on going concern status of firms that falls within the unqualified audit opinion zone but for firms that fall within the qualified audit opinion zone, we find that audit fees have a significant negative effect on going concern status. For the variable of joint auditor, the results from the Least Square Dummy Variable Estimator reveals an insignificant positive effect on going concern status of firms within the unqualified audit opinion zones. Finally, audit delay has an insignificant effect on going concern status of firms in both qualified and unqualified audit opinion zones.

Having analyzed the results obtained from qualified and unqualified audit opinion zones (Second & Third models) we employed the logistic regression to analyze the combine model which encompasses both zones (qualified and unqualified audit opinion) in relation to accounting going concern. Specifically, we assign a value of “1” for firms in the qualified audit opinion zone and “0” for firms in the unqualified audit opinion zone using the Z-score criteria provided in the previous chapter.

# 4.2.7 Panel Logistic Regression

Logistic regression is a specialized form of regression that is formulated to predict and explain a binary categorical variable rather than a metric dependent measure. It has a unique relationship between dependent and independent variables; however, it requires a different approach in estimating the variate, assessing goodness-of-fit, and interpreting the coefficients when compared to multiple regression (Hair Jr, Sarstedt, Hopkins & Kuppelwieser 2014). Therefore, in line with existing literature on dichotomous measurement of dichotomous dependent variable, logistic regression is used in this study to test the combined model which is a combination of qualified and unqualified audit opinion firms. The results obtained from the Logistic Regression is provided below:

# Table 4.6 Panel Logistic Regression (Marginal Effects)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **Audit Firm Size** | **Auditor’s Tenure** | **Auditor’s Fees** | **Joint Audit** | **Audit Delay** | **Leverage** |
| **Combine Model** | | | | |  |  |
| **Coefficient** | -0.182 | -0.105 | 0.179 | 0.037 | 0.001 | 0.007 |
| **z\_ Statistics** | (-5.47) | (-2.48) | (2.71) | (0.38) | (1.73) | (10.07) |
| **Probability\_z** | {0.000} \* | {0.013} \*\* | {0.007} \*\* | {0.701} | {0.083} | {0.000} \* |
| **No. of Obs. = 568; Prob. F statistics = 0.0000; R2 = 0.2296** | | | | | | |

***Note: t & z -statistics and respective probabilities are represented in () and {} Where: \*\* represents 5% & \* represent 1% level of significance***

# Source: Authors’ Computations (2021)

The table above show a summarized result obtained from going concern logistic model where the coefficient, z\_statistics as well as the corresponding probability of the z\_statistics for the model is shown. The logistic regression result above reveals a Pseudo R2 value of 0.2296 which indicates that about 23% of the variation in the dependent variable has been explained by all the independent and control variables in the model. This also suggest that 77% of the variation in the dependent variable is left unexplained but have been captured in the error term. Furthermore, the model goodness of fit as captured by the Likelihood ratio statistics (173.46) and its corresponding

probability value (0.0000) shows a 1% statistically significant level suggesting that the entire model is well fit.

# Logistic Diagnostic Test

# Sensitivity and Specificity Test

Sensitivity (also called the true positive rate) measures the proportion of actual positives which are correctly identified as such and is complementary to the false negative rate while Specificity (also called the true negative rate) measures the proportion of negatives which are correctly identified as such and is complementary to the false positive rate. Particularly, the classification table shows that out of 358 cases that fell into the group of firms qualified audit opinion zone, 280 cases were predicted correctly with 80% sensitivity accuracy while 139 of 210 cases that fell into the group of unqualified audit opinion zone were predicted correctly but with 64% specificity accuracy. However, we find that the overall accuracy rate is seen to be roughly 74% which suggest that the model is free from any significant bias hence can be employed for interpretation and policy recommendation.

# Collinearity Test

Collinearity can mainly be detected with the help of tolerance and its reciprocal, called variance inflation factor (VIF). The tolerance is the percentage of the variance in a given predictor that cannot be explained by the other predictors. Tolerance close to 1 indicates that there is no collinearity, whereas a value close to zero suggests that collinearity may be a threat. There is no formal cutoff value to use with tolerance for determining presence of collinearity (Midi, Sarkar, & Rana, 2013). Mayers (1990) suggests a tolerance value below 0.1 indicates serious collinearity problem and Menard (2002) suggests that a tolerance value less than 0.2 indicates a potential collinearity problem. As a rule of thumb, a tolerance of 0.1 or less is a cause for concern. Our

results reveal a tolerance value of 0.9644 for big4 auditors, 0.9913 for auditors’ tenure, 0.9870 for audit fees, 0.9858 for joint auditors, and 0.9810 for auditor’s delay suggest that there is no room to suspect the presence of collinearity.

Moreover, eigen values for the condition indices and the variance proportions for each explanatory variable is used to identify collinearity. If any eigen value is larger than others, then the regression parameters can be greatly affected by small changes in the explanatory variables or outcome. If the eigen values are similar then the fitted model is likely to be unchanged by small changes in the measured variables (Rana, Midi, & Sarkar, 2010). When there is no collinearity at all, the eigen values, condition indices will equal unity. As collinearity increases, eigen values will be both greater and smaller than unity. If one or more of the eigenvalues are small (close to zero) and the corresponding condition number is large, then we have an indication of multicollinearity. There is no hard and fast rule about how much larger a condition index needs to be for collinearity to surface as a problem. However, an informal rule of thumb is that if the condition index is 15, multicollinearity is a concern; if it is greater than 30, then multicollinearity becomes a very serious concern. Particularly, we find that the conditional number of 5.7362 suggest that collinearity is not a problem in the model hence our model is free from any significant bias and can be employed for interpretation and policy recommendation.

# Test of Hypotheses

**Hypotheses 1: Audit Firm Size has no significant likelihood effect on Concept of Going Concern of listed non-finance firms in Nigeria**

The marginal effect of the logistic regression model presented in the table above reveal the result of the variable of audit firm size as follows: (Coef. = -0.182, z = -5.47 and P -value = 0.000). Following the results above, we find that audit firm size has a statistically significant negative likelihood effect

on Concept of going concern during the period under review. This suggests that hiring big four audit firms does not improve the going concern status of the firms under study. This finding is inconsistent with our stated null hypothesis which leads to its rejection. Therefore, we re-state that audit firm size has a significant likelihood effect on accounting going concern status of listed non-finance firms in Nigeria during the period under study.

# Decision Rule

Reject Ho if Audit Firm Size is statistically significant at 5% level

# Decision

Based on the result, the study rejects the null hypothesis that audit firm size has no significant likelihood effect on Concept of going concern of listed non- financial companies in Nigeria.

# Hypotheses 2: Audit Tenure has no significant likelihood effect on Concept of Going Concern of listed non-finance firms in Nigeria

The marginal effect of the logistic regression model presented in the table above reveal the result of the variable of audit tenure as follows: (Coef. = -0.105, z = -2.48 and P -value = 0.013). Following the results above, it is revealed that the likelihood effect of audit tenure on Concept of going concern is negative and statistically significant at 5% during the period under review. This suggests that audit tenure does not improve going concern status of the firms under study. This finding is inconsistent with our stated null hypothesis which leads to its rejection. Therefore, audit tenure has a significant likelihood effect on Concept of going concern status of listed non-finance firms in Nigeria during the period under study.

# Decision Rule

Reject Ho if Audit Tenure is statistically significant at 5% level

# Decision

Based on the result, the study rejects the null hypothesis that audit tenure has no significant likelihood effect on Concept of going concern of listed non- financial companies in Nigeria.

# Hypotheses 3: Audit fees has no significant likelihood effect on Concept of Going Concern of listed non-finance firms in Nigeria

The marginal effect of the logistic regression model presented in the table above reveal the result of the variable of audit fees as follows: (Coef. = 0.179, z = 2.71 and P -value = 0.007). Following the results above, it is revealed that the likelihood effect of audit fees on Concept of going concern is positive and statistically significant at 5% during the period under review. This suggests that higher audit fees statistically improve going concern status of non-financial listed firms under study. However, this finding is inconsistent with our stated null hypothesis which leads to its rejection. Therefore, audit fees have a significant likelihood effect on accounting going concern status of listed non-finance firms in Nigeria during the period under study.

# Decision Rule

Reject Ho if Audit Fee is statistically significant at 5% level

# Decision

Based on the result, the study rejects the null hypothesis that audit fee has no significant likelihood effect on Concept of going concern of listed non- financial companies in Nigeria.

# Hypotheses 4: Joint audit has no significant likelihood effect on Concept of Going Concern of listed non-finance firms in Nigeria

The marginal effect of the logistic regression model presented in the table above reveal the result of the variable of joint audit as follows: (Coef. = 0.037, z = 0.38 and P -value = 0.701). Following the results above, it is revealed that the likelihood effect of joint audit on Concept of going concern is positive and statistically insignificant at 5% or 1% for the period under review. This suggests that

joint audit does not significantly improve going concern status of the firms under study. This finding is consistent with our stated null hypothesis which leads to its acceptance. Therefore, joint audit has no significant likelihood effect on Concept of going concern status of listed non-finance firms in Nigeria for the period under study.

# Decision Rule

Reject Ho if Joint Audit is statistically significant at 5% level

# Decision

Based on the result, the study accepts the null hypothesis that joint audit has no significant likelihood effect on Concept of going concern of listed non- financial companies in Nigeria.

# Hypotheses 5: Audit delay has no significant likelihood effect on Concept of Going Concern of listed non-finance firms in Nigeria

The marginal effect of the logistic regression model presented in the table above reveal the result of the variable of audit delay as follows: (Coef. = 0.001, z = 1.73 and P -value = 0.083). Following the results above, it is revealed that the likelihood effect of audit delay on Concept of going concern is positive and statistically insignificant at 5% or 1% during the period under review. This suggests that audit delay does not statistically improve going concern status of the firms under study. This finding is consistent with our stated null hypothesis which leads to its acceptance. Therefore, audit delay has no significant likelihood effect on Concept of going concern status of listed non-finance firms in Nigeria during the period under study.

# Decision Rule

Reject Ho if Audit Delay is statistically significant at 5% level

# Decision

Based on the result, the study accepts the null hypothesis that audit delay has no significant likelihood effect on Concept of going concern of listed non- financial companies in Nigeria.

# Introduction

# CHAPTER FIVE DISCUSSION OF FINDINGS

In this chapter, we provide detailed discussion of the results which were obtained from the logistic regression analyses (combined model employed to test the hypotheses).

# Audit Firm Size

The finding from this study reveals that audit firm size has a negative significant likelihood effect on Concept of going concern status of listed non-finance firms in Nigeria during the period under review. This implies that hiring the services of big4 audit firms will reduce the probability that going concern audit opinion will be issued. This revelation is consistent with those of Kida (1980) and Carcello, Hermanson & Neal (2003) who argue that clients do not welcome the receipt of audit reports modified for going concern, especially, if the report is viewed as unwarranted based on their continued viability. Clients may express this displeasure by switching to a different auditor (Geiger, Raghunandan, & Rama 2005; Carcello, Hermanson & Neal 2003). Losing a disgruntled client that subsequently remains viable is potentially costly to the auditor in terms of lost future quasi-rents associated with retaining and servicing the client. Further, our finding is seen to be consistent with those of DeAngelo (1981); Palmrose (1986); Kim, Chung& Firth (2003); and Behn, Choi & Kang (2008) who concluded that big auditors can also offer non-audit services such as audits of employee benefit plans, due diligence investigations related to mergers and acquisitions, internal control reviews, as well as consultations concerning financial and tax planning which will in turn improve their going concern status. Particularly, we opine that a firm needs strategic decision by management to further solidified the unqualified audit going concern status of the firms.

# Audit Tenure

We also document that auditor’s tenure has a significant negative likelihood effect on going concern status of listed non-finance firms in Nigeria. This result is in line with the view that longer tenure of the auditor provides brighter chances that the firm will get an unqualified audit opinion. This finding is consistent with those of Raghunathan, Barry & Evans (1994), Carcello and Nagy (2004a) who argued that audit-firm tenure enables an auditor to understand the client firm better and more comprehensively. They document that observed folding up of companies are more likely to take place in the early years of an audit engagement and problem audits are more likely to occur in the first year and when auditor tenure is shorter than five years. Further, our finding agrees with the position of Mansi, Maxwell, & Miller (2004); Gul, Fung & Jaggi (2009); Knechel and Vanstraelen (2007) who observed that due to lower information asymmetry and a deeper knowledge of the firm, long-tenured auditors are better able to issue early warnings to firms that are at risk of default. Particularly, we fail to agree with the outcome of Dopuch, King, & Schwartz (2001) and Casterella, Knechel, & Walker (2004) who provided evidence of a positive relationship between tenure and going concern.

# Audit Fee

Further, we find a significant positive likelihood effect of audit fees on Concept of going concern status of listed non-finance firms which aligns with prior empirical evidence of DeFond, Raghunandan, & Subramanyam (2002); Basioudis, Evangelos, & Geiger (2008) who argue that higher audit fees, irrespective of their classification, may threaten auditor independence hence impacting on the going concern of the firms. Geiger, Raghunanan & Rama (2005) explain that the association between going concern and audit fees can vary according to the regulative framework for auditor reporting. They find that, in 2002 and 2003, bankrupt companies in the US are more likely to have received a qualified going concern audit opinion prior to the default than in 2000

and 2001. They explain that high audit fees and pressure groups, as well as more stringent regulation of audit firms in terms of the Sarbanes–Oxley Act (SOX 2002) initiated the outcome. Our result is also seen to be consistent with those established by Hoitash, Hoitash & Bedard (2005) who document that higher audit fees are charged to firms that disclosed material weaknesses. Abbott, Parker & Peters (2006) posits that firms that engage in income-increasing earnings management pay higher audit fees. According to the audit risk model, auditors charge higher audit fees to riskier clients, due to a higher probability of litigation and reputational risks (Hogan & Wilkins 2008) therefore the possibility of obtaining qualified audit opinion remains high.

# Joint Audit AND Audit Delay

Specifically, we document insignificant likelihood effect of joint audit and audit delay on Concept of going concern status of listed non-finance firms. This result is in line with the position of the Institute of Chartered Accountants of Nigeria (ICAN) who initially pushed for mandatory joint audit for listed firms in Nigeria but dropped the idea after due consultations at its forum of firms where it was unanimously agreed that there is no consensus on the benefits of a joint audit. Price Waterhouse Cooper (PWC, 2015). Further the finding is at variance with those of Okoye, Okafor, and Okaro (2015) who advocated for joint audits and suggested that such policy will restore audit quality in Nigeria. However, Osei-Afoakwa (2013) advocated for audit findings to be subjected to a peer review process in which another auditor of similar competence is elected to have another look at the work of the audit firm under review.

# CHAPTER SIX

# SUMMARY OF FINDINGS CONCLUSION AND RECOMMENDATION

# Summary of Findings

The aim of this study is to explore the interplay between audit quality and Concept of going concern of listed non-financial companies in Nigeria. The scope of this study covers a 10year period ranging from 2011 to 2020. Our population consist of 75 listed non-finance firms in Nigeria with final sample size consisting of 23 non-financial firms that fell into the unqualified audit opinion zone having a total of 222 firm year observation and 36 firms that fell into the qualified audit opinion zone having a firm year observation of 359. Put together, the sample that was employed to test the study hypotheses consists of 59 listed non-finance firms with a total of 681 firm year observation which was arrived at after non-financial listed firms that fell within the gray zone were deselected. The independent variables of interest include audit firm size, auditors’ tenure, auditors’ fees, joint auditor, and audit delay. In this study, control variable of firm leverage derived from related extant literature to help improve the reliability of our specified model was included. We employed the variable of Altman z-score as a proxy for Concept of going concern following previous literature and this represents the dependent variable for both the unqualified audit opinion firms and qualified audit opinion firms. For the model which combined both categories of firms, we assign a value of “1” for firms in the qualified audit opinion zone and “0” for firms in the unqualified audit opinion zone using the Z-score criteria. Particularly, we conduct pre regression analysis which includes descriptive statistics, correlation matrix, and normality of residua analysis. Basically, the Panel Ordinary Least Square Regression analysis is first conducted and tested, to find out if it violates the basic Gauss Markov Theorem and assumptions. Hence, post regression test which include test for homoscedasticity and multicollinearity were conducted. Further, panel logistic regression analysis is also conducted, and diagnostic tests were carried out

to check if it violates the basic assumptions of logistic regression. Post regression tests which include test for collinearity, specificity and sensitivity were also conducted. The outcome from the panel logistic regression estimation reveals that:

* + 1. Audit firm size has a significant (1%) negative likelihood effect on going concern status of listed non-finance firms in Nigeria during the period under study.
    2. Audit tenure has a significant (5%) negative likelihood effect on going concern status of listed non-finance firms in Nigeria during the period under investigation.
    3. Audit fees have a significant (5%) positive likelihood effect on going concern status of listed non-finance firms in Nigeria during the period under review.
    4. Joint audit has no significant likelihood effect on going concern status of listed non-finance firms in Nigeria during the period under study.
    5. Audit delay has no significant likelihood effect on going concern status of listed non-finance firms in Nigeria during the period under study.

# Conclusion

One of the main assumptions underlying financial statements is the going-concern assumption. Under this assumption a company is expected to continue operation in the foreseeable future and not go out of business. This assumption is vital for the valuation of assets, as it means that assets can be valued upon their business value in use rather than their termination value, which is in general a lot lower. If a firm is not expected to continue to stay in business in the foreseeable future, the auditor can give an adverse opinion in the form of a going-concern opinion. The going- concern opinion is an important signal for investors as it is off course vital for them to know whether the firm, they are investing in will continue its operation in the future. Going-concern opinion is seen as a signal of potential bankruptcy. The survival of a company means that the company can maintain its business activities both in short term and long term. In relation to

auditor's opinion, going concern audit opinion is an audit opinion with an explanatory paragraph regarding the auditor's judgment that there is incompetence or significant doubt on the viability of the company to run its operations in the future. Modification about going concern in the audit report is an indication that in the auditor's assessment the risks that the auditee cannot stay in business pertinent. From the findings of this study, we conclude that audit quality has significant roles to play in the going concern status of listed non-financial firms in Nigeria.

# Recommendations

Particularly, we profer recommendations that will guide stakeholders operating corporate organizations within thenon-financial firms listed on the floor of the stock exchange market of Nigeria. Generally, we recommend that managers of firms listed on the stock exchange (espectially non-financial companies) should always make delibrate effort to validate the financial health of their company from time to time. However, in line with the significant outcomes which we obtained from the empirical analysis we carefully recommend;

1. The need to hire audit services provided by big four audit firms such as Akintola Williams (Deloitte), Ernst & Young, KPMG, and Pricewaterhouse Coopers should be given prior concern. This is due because this category of audit firms with international affiliation will have a higher quality that is associated with quality, such as: training, international recognition, and the presence of peer review. Such auditors will strive to maintain the quality of audit so it does not lose the trust of clients.
2. Enlonged tenure system for engaged audit firms should be considered. We find that such policies when implemented will provide brighter chances to the audited firm to get an unqualified audit opinion. This is enabled from the fact that the engaged auditor is given apple time to understand the clients’ firm better and more comprehensively.
3. A review of higher service fee (audit fee) paid to engaged auditors should be considered if possible reviewed downwards. We find that higher audit fee paid by these firms to these auditors erodes the independence of the auditor thereby making the auditors prone to bias judgement which eventually erodes the company’s going concern status. Non-audit service provision which makes up of the largest chunk of audit fee should be re-considered if not outrightly stopped.
4. Corporate policies that may provide for joint audit services should be less considered.

Instead, more attention should be paid to hiring the services of Big four audit firms as this has been empirically proven to be a tool for improving financial statement quality.

1. Although the variable of audit delay reveals an insignificant effect on accounting going concern concept, we still recommend that best practice rule should be enforced. Auditor should be able to give opinion on the financial statement within the regulatory framework of 90 days after which the directors signed.

# Contrbution to Knowledge

This current study on the effect of audit quality on accounting going concern is very unique. First, we have succesfully provided empirical evidences by exploring listed non-fianance companies which related studies have sparsely examined. As regards the measurments of audit quality, previous literature have been largely skeweed to the use of audit indpendence, industry type, and non-audit fees. But in this study, we include three less employed (auditors’ tenure, audit delay and auditors fee) which are very uncommon among extant related literature in Nigeria.

# Suggestions for Further Studies

Like most other related research work, limitations are inhenrent hence we suggest that futures authors carrying out similar studies should try to cover non-financial sector of the Nigerian economy. Diversity of methodological approaches, audit quality metrics, and governance structures may offer an alternative explanation for varying results. Hence, inherent shortcomings in our analytical approaches can also be dealt with in further related studies.

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# APPENDIXES APPENDIX I REGRESSION RESULT

(R)

/ / / /

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College Station, Texas 77845 USA

800-STATA-PC [http://www.stata.com](http://www.stata.com/) 979-696-4600 [stata@stata.com](mailto:stata@stata.com)

979-696-4601 (fax)

Single-user Stata perpetual license:

Serial number: 301506215585

Licensed to: e-Data Value Associates, Benin City

**. \*(11 variables, 581 observations pasted into data editor)**

**. summarize zscore acgc big4 audt afrr jota adly deta, separator(10)**

**---**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable |** | **Obs** | **Mean** | **Std. Dev.** | **Min** | **Max** |
| **----------+--------------------------------------------------------- zscore | 578 2.440346 4.357568 -7.23 74.81** | | | | | |
| **acgc |** | **581** | **.6179002** | **.4863195** | **0** | **1** |
| **big4 |** | **576** | **.5399306** | **.4988362** | **0** | **1** |
| **audt |** | **576** | **.7621528** | **.4261352** | **0** | **1** |
| **afrr |** | **575** | **.6077085** | **3.616393** | **0** | **54.8446** |
| **jota |** | **576** | **.0364583** | **.1875906** | **0** | **1** |
| **adly |** | **571** | **114.4921** | **86.94766** | **28** | **934** |
| **deta |** | **578** | **67.75903** | **43.7215** | **1.43** | **450.25** |

**. tabstat zscore acgc big4 audt afrr jota adly deta, statistics( mean sd min max sum ) by(sector)**

**Summary statistics: mean, sd, min, max, sum by categories of: sector (Sector)**

**sector | zscore acgc big4 audt afrr jota adly deta**

**-----------------+--------------------------------------------------------------------------------**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agriculture |** | **2.602857** | **.5517241** | **.2758621** | **.7241379** | **.3075828** | **0** | **116.3103** | **60.42964** |
| **|** | **2.932725** | **.5061202** | **.4548588** | **.4548588** | **.4316578** | **0** | **70.11526** | **32.49349** |
| **|** | **-1.24** | **0** | **0** | **0** | **.085** | **0** | **51** | **17.79** |
| **|** | **8.42** | **1** | **1** | **1** | **2.3221** | **0** | **317** | **141.58** |
| **|** | **72.88** | **16** | **8** | **21** | **8.9199** | **0** | **3373** | **1692.03** |
| **Conglomerate | 1.275897 .8461538 .4871795 .6923077 .3375821 0 116.4872** | | | | | | | | **--------- 61.30769** |
| **|** | **1.502081** | **.3655178** | **.5063697** | **.4675719** | **.5115721** | **0** | **79.62341** | **24.47333** |
| **|** | **-.39** | **0** | **0** | **0** | **.0268** | **0** | **46** | **16.56** |
| **|** | **6.85** | **1** | **1** | **1** | **3.1276** | **0** | **457** | **107.5** |
| **|** | **49.76** | **33** | **19** | **27** | **13.1657** | **0** | **4543** | **2391** |

**-----------------+-----------------------------------------------------------------------**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Construction & R |** | **.66** | **1** | **.65** | **.75** | **.289065** | **0** | **85.55** | **70.7365** |
| **|** | **.8659646** | **0** | **.4893605** | **.4442617** | **.3439207** | **0** | **15.6994** | **17.74831** |
| **|** | **-1.32** | **1** | **0** | **0** | **.0292** | **0** | **57** | **47.05** |
| **|** | **1.71** | **1** | **1** | **1** | **1.2** | **0** | **127** | **91.54** |
| **|** | **13.2** | **20** | **13** | **15** | **5.7813** | **0** | **1711** | **1414.73** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Consumer Goods |** | **4.064957** | **.3760684** | **.7692308** | **.7948718** | **.1370179** | **.0683761** | **94.03419** | **60.3588** |
| **|** | **3.95335** | **.486481** | **.4231372** | **.405532** | **.2403628** | **.2534757** | **62.58194** | **26.49362** |
| **|** | **-2.04** | **0** | **0** | **0** | **0** | **0** | **36** | **4.28** |
| **|** | **26.07** | **1** | **1** | **1** | **1.5417** | **1** | **456** | **156.28** |
| **|** | **475.6** | **44** | **90** | **93** | **16.0311** | **8** | **11002** | **7061.98** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Healthcare |** | **1.563171** | **.7317073** | **.4634146** | **.804878** | **.4406902** | **0** | **91.875** | **53.30366** |
| **|** | **1.893757** | **.448575** | **.5048545** | **.4012177** | **.5206726** | **0** | **21.51945** | **16.33805** |
| **|** | **-2.13** | **0** | **0** | **0** | **.0836** | **0** | **55** | **23.26** |
| **|** | **6.33** | **1** | **1** | **1** | **2.3226** | **0** | **149** | **106.94** |
| **|** | **64.09** | **30** | **19** | **33** | **18.0683** | **0** | **3675** | **2185.45** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **ICT |** | **2.24907** | **.8139535** | **.372093** | **.7674419** | **.1825605** | **0** | **127.4186** | **65.61605** |
| **|** | **4.127357** | **.3937496** | **.4890835** | **.4274626** | **.0760933** | **0** | **108.9067** | **32.9359** |
| **|** | **-1.45** | **0** | **0** | **0** | **.066** | **0** | **37** | **13.7** |
| **|** | **24.84** | **1** | **1** | **1** | **.3504** | **0** | **514** | **136.71** |
| **|** | **96.71** | **35** | **16** | **33** | **7.8501** | **0** | **5479** | **2821.49** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Industrial Goods |** | **3.346197** | **.4647887** | **.7323944** | **.7183099** | **.4915071** | **.1267606** | **94.21429** | **62.68423** |
| **|** | **3.801047** | **.5023086** | **.4458618** | **.4530247** | **.8588863** | **.3350726** | **26.28379** | **30.06486** |
| **|** | **-3.42** | **0** | **0** | **0** | **.035** | **0** | **57** | **1.43** |
| **|** | **16.85** | **1** | **1** | **1** | **6.6286** | **1** | **227** | **171.38** |
| **|** | **237.58** | **33** | **52** | **51** | **34.4055** | **9** | **6595** | **4450.58** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Natural Resource |** | **1.176765** | **.6176471** | **.2121212** | **.9090909** | **6.023158** | **0** | **170.5625** | **58.66294** |
| **|** | **2.019868** | **.4932702** | **.4151488** | **.2919371** | **14.1053** | **0** | **207.9522** | **30.38724** |
| **|** | **-1.4** | **0** | **0** | **0** | **.0584** | **0** | **53** | **11.7** |
| **|** | **4.2** | **1** | **1** | **1** | **54.8446** | **0** | **934** | **138.28** |
| **|** | **40.01** | **21** | **7** | **30** | **198.7642** | **0** | **5458** | **1994.54** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Oil & Gas |** | **3.559836** | **.4590164** | **.6779661** | **.7457627** | **.1058203** | **0** | **106.5345** | **84.80951** |
| **|** | **9.518447** | **.502453** | **.4712667** | **.4391693** | **.2303978** | **0** | **46.44907** | **68.33736** |
| **|** | **-3.2** | **0** | **0** | **0** | **.0089** | **0** | **28** | **6.34** |
| **|** | **74.81** | **1** | **1** | **1** | **1.0681** | **0** | **296** | **450.25** |
| **|** | **217.15** | **28** | **40** | **44** | **6.2434** | **0** | **6179** | **5173.38** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Services |** | **1.157581** | **.7857143** | **.3790323** | **.7419355** | **.3242169** | **.0322581** | **141.1382** | **80.48016** |
| **|** | **2.052553** | **.4119639** | **.4871143** | **.4393448** | **.3511421** | **.1774015** | **96.24689** | **62.02549** |
| **|** | **-7.23** | **0** | **0** | **0** | **.0336** | **0** | **64** | **11.19** |
| **|** | **5.45** | **1** | **1** | **1** | **1.9578** | **1** | **538** | **395.45** |
| **|** | **143.54** | **99** | **47** | **92** | **40.2029** | **4** | **17360** | **9979.54** |
| **-----------------+--------------------------------------------------------------------------------** | | | | | | | | |
| **Total |** | **2.440346** | **.6179002** | **.5399306** | **.7621528** | **.6077085** | **.0364583** | **114.4921** | **67.75903** |
| **|** | **4.357568** | **.4863195** | **.4988362** | **.4261352** | **3.616393** | **.1875906** | **86.94766** | **43.7215** |
| **|** | **-7.23** | **0** | **0** | **0** | **0** | **0** | **28** | **1.43** |
| **|** | **74.81** | **1** | **1** | **1** | **54.8446** | **1** | **934** | **450.25** |
| **|** | **1410.52** | **359** | **311** | **439** | **349.4324** | **21** | **65375** | **39164.72** |

**--------------------------------------------------------------------------------------------------**

**. swilk acgc big4 audt afrr jota adly deta**

**Shapiro-Wilk W test for normal data**

**Variable | Obs W V z Prob>z**

**-------------+------------------------------------------------------**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **acgc |** | **581** | **0.99922** | **0.299** | **-2.924** | **0.99827** |
| **big4 |** | **576** | **0.99988** | **0.047** | **-7.379** | **1.00000** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **audt |** | **576** | **0.99432** | **2.171** | **1.875** | **0.03041** |
| **afrr |** | **575** | **0.10709** | **340.742** | **14.105** | **0.00000** |
| **jota |** | **576** | **0.91363** | **33.010** | **8.459** | **0.00000** |
| **adly |** | **571** | **0.53509** | **176.299** | **12.507** | **0.00000** |
| **deta |** | **578** | **0.67955** | **122.864** | **11.640** | **0.00000** |

**. spearman acgc big4 audt afrr jota adly deta (obs=568)**

**| acgc big4 audt afrr jota adly deta**

**-------------+---------------------------------------------------------------**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **acgc |** | **1.0000** |  |  |  |  | | |
| **big4 |** | **-0.2578** | **1.0000** |  |  |
| **audt |** | **-0.1130** | **0.0542** | **1.0000** |  |
| **afrr |** | **0.3285** | **-0.2068** | **-0.0228** | **1.0000** |
| **jota |** | **-0.0380** | **0.1071** | **0.0014** | **-0.0580** | **1.0000** |  |  |
| **adly |** | **0.2697** | **0.0132** | **0.0154** | **0.2804** | **-0.0667** | **1.0000** |  |
| **deta |** | **0.4330** | **-0.0623** | **-0.0497** | **0.0757** | **-0.0391** | **0.2371** | **1.0000** |

**MODEL 1: COMBINE (UNQUALIFIED and QUALIFIED OPINION)**

**. logit acgc big4 audt afrr jota adly deta**

**Iteration 0: log likelihood = -377.75128**

**Iteration 1: log likelihood = -311.5234**

**Iteration 2: log likelihood = -295.32914**

**Iteration 3: log likelihood = -291.4498**

**Iteration 4: log likelihood = -291.02341**

**Iteration 5: log likelihood = -291.02085**

**Iteration 6: log likelihood = -291.02085**

|  |  |  |  |
| --- | --- | --- | --- |
| **Logistic regression** | **Number of obs** | **=** | **568** |
|  | **LR chi2(6)** | **=** | **173.46** |
|  | **Prob > chi2** | **=** | **0.0000** |
| **Log likelihood = -291.02085** | **Pseudo R2** | **=** | **0.2296** |

**------------------------------------------------------------------------------**

**acgc | Coef. Std. Err. z P>|z| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **big4 |** | **-1.05284** | **.2110485** | **-4.99** | **0.000** | **-1.466487** | **-.6391923** |
| **audt |** | **-.6080307** | **.2496301** | **-2.44** | **0.015** | **-1.097297** | **-.1187646** |
| **afrr |** | **1.035115** | **.3889186** | **2.66** | **0.008** | **.2728489** | **1.797382** |
| **jota |** | **.214238** | **.5583849** | **0.38** | **0.701** | **-.8801762** | **1.308652** |
| **adly |** | **.0036736** | **.0021357** | **1.72** | **0.085** | **-.0005123** | **.0078595** |
| **deta |** | **.0400551** | **.0051204** | **7.82** | **0.000** | **.0300193** | **.0500909** |
| **\_cons |** | **-1.523402** | **.4069065** | **-3.74** | **0.000** | **-2.320924** | **-.7258797** |

**------------------------------------------------------------------------------**

**Note: 0 failures and 3 successes completely determined.**

**. estat gof**

**Logistic model for acgc, goodness-of-fit test**

|  |  |
| --- | --- |
| **number of observations =** | **568** |
| **number of covariate patterns =** | **568** |
| **Pearson chi2(561) =** | **739.63** |
| **Prob > chi2 =** | **0.0000** |

**. estat gof, group(10)**

**Logistic model for acgc, goodness-of-fit test**

**(Table collapsed on quantiles of estimated probabilities) number of observations = 568**

**number of groups = 10**

**Hosmer-Lemeshow chi2(8) = 17.85**

**Prob > chi2 = 0.0224**

**. estat classification Logistic model for acgc**

**-------- True --------**

**Classified | D ~D | Total**

**-----------+--------------------------+-----------**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **+** | **|** | **280** | **78 |** | **358** |
| **-** | **|** | **71** | **139 |** | **210** |

**-----------+--------------------------+-----------**

**Total | 351 217 | 568**

**Classified + if predicted Pr(D) >= .5 True D defined as acgc != 0**

**--------------------------------------------------**

**Sensitivity Pr( +| D) 79.77%**

**Specificity Pr( -|~D) 64.06% Positive predictive value Pr( D| +) 78.21% Negative predictive value Pr(~D| -) 66.19%**

**--------------------------------------------------**

**False + rate for true ~D Pr( +|~D) 35.94% False - rate for true D Pr( -| D) 20.23% False + rate for classified + Pr(~D| +) 21.79% False - rate for classified - Pr( D| -) 33.81%**

**--------------------------------------------------**

**Correctly classified 73.77%**

**--------------------------------------------------**

**. collin big4 audt afrr jota adly (obs=571)**

**Collinearity Diagnostics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | **SQRT** |  | **R-** |
| **Variable** | **VIF** | **VIF** | **Tolerance** | **Squared** |
| **---------------------------------------------------**  **big4 1.04 1.02 0.9644 0.0356** | | | | |
| **audt** | **1.01** | **1.00** | **0.9913** | **0.0087** |
| **afrr** | **1.01** | **1.01** | **0.9870** | **0.0130** |
| **jota** | **1.01** | **1.01** | **0.9858** | **0.0142** |
| **adly** | **1.02** | **1.01** | **0.9810** | **0.0190** |

**-**

**---------------------------------------------------- Mean VIF 1.02**

**Cond**

**Eigenval Index**

**---------------------------------**

|  |  |  |
| --- | --- | --- |
| **1** | **3.2423** | **1.0000** |
| **2** | **1.0056** | **1.7956** |
| **3** | **0.9344** | **1.8627** |
| **4** | **0.4525** | **2.6769** |
| **5** | **0.2667** | **3.4865** |
| **6** | **0.0985** | **5.7362** |

**---------------------------------**

**Condition Number 5.7362**

**Eigenvalues & Cond Index computed from scaled raw sscp (w/ intercept) Det(correlation matrix) 0.9544**

**. margin, dydx (\*)**

**Average marginal effects Number of obs = 568**

**Model VCE : OIM**

**Expression : Pr(acgc), predict()**

**dy/dx w.r.t. : big4 audt afrr jota adly deta**

**------------------------------------------------------------------------------**

**| Delta-method**

**| dy/dx Std. Err. z P>|z| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **big4 |** | **-.1819545** | **.0332416** | **-5.47** | **0.000** | **-.2471069** | **-.1168021** |
| **audt |** | **-.1050814** | **.0423167** | **-2.48** | **0.013** | **-.1880207** | **-.0221422** |
| **afrr |** | **.1788913** | **.0659143** | **2.71** | **0.007** | **.0497016** | **.3080811** |
| **jota |** | **.0370252** | **.0964824** | **0.38** | **0.701** | **-.1520768** | **.2261271** |
| **adly |** | **.0006349** | **.000366** | **1.73** | **0.083** | **-.0000825** | **.0013522** |
| **deta |** | **.0069224** | **.0006876** | **10.07** | **0.000** | **.0055747** | **.0082702** |

**------------------------------------------------------------------------------ MODEL 2: UNQUALIFIED OPINION ONLY**

**. \*(10 variables, 222 observations pasted into data editor)**

**. reg zscore big4 audt afrr jota adly deta**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source |** | **SS** | **df** | **MS** | **Number of obs** | **=** | **217** |
| **-------------+----------------------------------** | | | | **F(6, 210)** | **=** | **2.41** |
| **Model | 450.341347 6 75.0568912** | | | | **Prob > F** | **=** | **0.0285** |
| **Residual | 6545.17925 210 31.1675202** | | | | **R-squared** | **=** | **0.0644** |
| **-------------+----------------------------------** | | | | **Adj R-squared** | **=** | **0.0376** |
| **Total |** | **6995.5206** | **216 32.3866694** | | **Root MSE** | **=** | **5.5828** |

**------------------------------------------------------------------------------**

**zscore | Coef. Std. Err. t P>|t| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **big4 |** | **1.809676** | **.86706** | **2.09** | **0.038** | **.1004194** | **3.518933** |
| **audt |** | **.3082593** | **.9938461** | **0.31** | **0.757** | **-1.650934** | **2.267453** |
| **afrr |** | **-.6936782** | **1.009699** | **-0.69** | **0.493** | **-2.684123** | **1.296767** |
| **jota |** | **-.757084** | **1.822962** | **-0.42** | **0.678** | **-4.350734** | **2.836566** |
| **adly |** | **.0015171** | **.0074995** | **0.20** | **0.840** | **-.0132667** | **.016301** |
| **deta |** | **-.0618502** | **.019007** | **-3.25** | **0.001** | **-.0993192** | **-.0243813** |
| **\_cons |** | **7.144722** | **1.537278** | **4.65** | **0.000** | **4.114247** | **10.1752** |

**------------------------------------------------------------------------------**

**. vif**

**Variable | VIF 1/VIF**

**-------------+----------------------**

|  |  |  |
| --- | --- | --- |
| **big4 |** | **1.10** | **0.910556** |
| **adly |** | **1.08** | **0.927161** |
| **deta |** | **1.04** | **0.966078** |
| **afrr |** | **1.02** | **0.976611** |
| **jota |** | **1.02** | **0.983188** |
| **audt |** | **1.01** | **0.986368** |

**-------------+----------------------**

**Mean VIF | 1.04**

**. hettest**

**Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance**

**Variables: fitted values of zscore**

|  |  |  |
| --- | --- | --- |
| **chi2(1)** | **=** | **344.26** |
| **Prob > chi2** | **=** | **0.0000** |

**. egen croid = group ( companies)**

**. xtset croid year**

**panel variable: croid (unbalanced)**

**time variable: year, 2011 to 2020, but with gaps delta: 1 unit**

**. xtreg zscore big4 audt afrr jota adly deta, fe**

|  |  |  |
| --- | --- | --- |
| **Fixed-effects (within) regression** | **Number of obs =** | **217** |
| **Group variable: croid** | **Number of groups =** | **53** |
| **R-sq:** | **Obs per group:** |  |
| **within = 0.2482** | **min =** | **1** |
| **between = 0.0048** | **avg =** | **4.1** |
| **overall = 0.0310** | **max =** | **10** |
|  | **F(6,158) =** | **8.69** |
| **corr(u\_i, Xb) = -0.7362** | **Prob > F =** | **0.0000** |

**------------------------------------------------------------------------------**

**zscore | Coef. Std. Err. t P>|t| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **big4 |** | **1.44828** | **2.593235** | **0.56** | **0.577** | **-3.673597** | **6.570157** |
| **audt |** | **1.46952** | **1.024803** | **1.43** | **0.154** | **-.5545593** | **3.4936** |
| **afrr |** | **5.248532** | **8.743249** | **0.60** | **0.549** | **-12.02019** | **22.51725** |
| **jota |** | **.3582358** | **5.558649** | **0.06** | **0.949** | **-10.62061** | **11.33708** |
| **adly |** | **-.0115968** | **.0116593** | **-0.99** | **0.321** | **-.034625** | **.0114313** |
| **deta |** | **-.2088372** | **.0300324** | **-6.95** | **0.000** | **-.2681539** | **-.1495204** |
| **\_cons |** | **13.85535** | **2.946089** | **4.70** | **0.000** | **8.036549** | **19.67414** |
| **--------+----------------------------------------------------------------**  **sigma\_u | 6.3692816** | | | | | | |
| **sigma\_e |** | **5.0824406** |  | | | | |
| **rho |** | **.61096972** | **(fraction of variance due to u\_i)** | | | | |

**-----**

**------------------------------------------------------------------------------**

**F test that all u\_i=0: F(52, 158) = 1.83 Prob > F = 0.0023**

**. estimate store re**

**. xtreg zscore big4 audt afrr jota adly deta, re**

**Random-effects GLS regression Number of obs = 217**

**Group variable: croid Number of groups = 53**

**R-sq: Obs per group:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **within = 0.2185** | | **min =** | | **1** |
| **between = 0.0186** | | **avg =** | | **4.1** |
| **overall = 0.0644** | | **max =** | | **10** |
|  |  | **Wald chi2(6)** | **=** | **14.45** |
| **corr(u\_i, X)** | **= 0 (assumed)** | **Prob > chi2** | **=** | **0.0250** |

**------------------------------------------------------------------------------**

**zscore | Coef. Std. Err. z P>|z| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **big4 |** | **1.809676** | **.86706** | **2.09** | **0.037** | **.1102699** | **3.509083** |
| **audt |** | **.3082593** | **.9938461** | **0.31** | **0.756** | **-1.639643** | **2.256162** |
| **afrr |** | **-.6936782** | **1.009699** | **-0.69** | **0.492** | **-2.672652** | **1.285296** |
| **jota |** | **-.757084** | **1.822962** | **-0.42** | **0.678** | **-4.330024** | **2.815856** |
| **adly |** | **.0015171** | **.0074995** | **0.20** | **0.840** | **-.0131815** | **.0162158** |
| **deta |** | **-.0618502** | **.019007** | **-3.25** | **0.001** | **-.0991032** | **-.0245972** |
| **\_cons |** | **7.144722** | **1.537278** | **4.65** | **0.000** | **4.131712** | **10.15773** |

**-------------+----------------------------------------------------------------**

**sigma\_u | 0**

**sigma\_e | 5.0824406**

**rho | 0 (fraction of variance due to u\_i)**

**------------------------------------------------------------------------------**

**. estimate store re**

**. xttest0**

**Breusch and Pagan Lagrangian multiplier test for random effects zscore[croid,t] = Xb + u[croid] + e[croid,t]**

**Estimated results:**

**| Var sd = sqrt(Var)**

**---------+-----------------------------**

**zscore | 32.38667 5.690929**

**e | 25.8312 5.082441**

**u | 0 0**

**Test: Var(u) = 0**

**chibar2(01) = 0.00**

**Prob > chibar2 = 1.0000**

**. reg zscore big4 audt afrr jota adly deta i.croid**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source |** | **SS** | **df** | **MS** | **Number of obs** | **=** | **217** |
| **-------------+----------------------------------** | | | | **F(58, 158)** | **=** | **1.95** |
| **Model | 2914.19058 58 50.2446652** | | | | **Prob > F** | **=** | **0.0006** |
| **Residual | 4081.33002 158 25.8312026** | | | | **R-squared** | **=** | **0.4166** |
| **-------------+----------------------------------** | | | | **Adj R-squared** | **=** | **0.2024** |
| **Total |** | **6995.5206** | **216 32.3866694** | | **Root MSE** | **=** | **5.0824** |

**------------------------------------------------------------------------------**

**zscore | Coef. Std. Err. t P>|t| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **big4** | **|** | **1.44828** | **2.593235** | **0.56** | **0.577** | **-3.673597** | **6.570157** |
| **audt** | **|** | **1.46952** | **1.024803** | **1.43** | **0.154** | **-.5545593** | **3.4936** |
| **afrr** | **|** | **5.248532** | **8.743249** | **0.60** | **0.549** | **-12.02019** | **22.51725** |
| **jota** | **|** | **.3582358** | **5.558649** | **0.06** | **0.949** | **-10.62061** | **11.33708** |
| **adly** | **|** | **-.0115968** | **.0116593** | **-0.99** | **0.321** | **-.034625** | **.0114313** |
| **deta** | **|** | **-.2088372** | **.0300324** | **-6.95** | **0.000** | **-.2681539** | **-.1495204** |
|  | **|** |  |  |  |  |  |  |
| **croid** | **|** |  |  |  |  |  |  |
| **2** | **|** | **-6.268879** | **3.176872** | **-1.97** | **0.050** | **-12.54349** | **.0057356** |
| **3** | **|** | **3.557963** | **4.336785** | **0.82** | **0.413** | **-5.007586** | **12.12351** |
| **4** | **|** | **-9.854798** | **5.311545** | **-1.86** | **0.065** | **-20.34559** | **.6359929** |
| **5** | **|** | **-10.09544** | **5.968006** | **-1.69** | **0.093** | **-21.8828** | **1.691921** |
| **6** | **|** | **-8.102399** | **5.642247** | **-1.44** | **0.153** | **-19.24636** | **3.041558** |
| **7** | **|** | **-3.275679** | **3.344473** | **-0.98** | **0.329** | **-9.881322** | **3.329963** |
| **8** | **|** | **2.611492** | **4.635568** | **0.56** | **0.574** | **-6.544182** | **11.76717** |
| **9** | **|** | **-9.361157** | **3.836778** | **-2.44** | **0.016** | **-16.93915** | **-1.783168** |
| **10** | **|** | **16.70329** | **8.008795** | **2.09** | **0.039** | **.8851863** | **32.5214** |
| **11** | **|** | **2.217898** | **6.041194** | **0.37** | **0.714** | **-9.714016** | **14.14981** |
| **12** | **|** | **2.679588** | **3.444755** | **0.78** | **0.438** | **-4.12412** | **9.483296** |
| **13** | **|** | **.8294113** | **5.813746** | **0.14** | **0.887** | **-10.65327** | **12.31209** |
| **14** | **|** | **1.36834** | **4.388065** | **0.31** | **0.756** | **-7.298492** | **10.03517** |
| **15** | **|** | **-4.932313** | **6.080583** | **-0.81** | **0.418** | **-16.94202** | **7.077398** |
| **16** | **|** | **-1.731311** | **2.915941** | **-0.59** | **0.554** | **-7.490563** | **4.02794** |
| **17** | **|** | **-4.124338** | **5.556975** | **-0.74** | **0.459** | **-15.09987** | **6.851199** |
| **18** | **|** | **-4.771373** | **2.918024** | **-1.64** | **0.104** | **-10.53474** | **.9919925** |
| **19** | **|** | **9.403362** | **2.720909** | **3.46** | **0.001** | **4.029316** | **14.77741** |
| **20** | **|** | **-1.23695** | **3.301207** | **-0.37** | **0.708** | **-7.757138** | **5.283239** |
| **21** | **|** | **-5.666242** | **9.235294** | **-0.61** | **0.540** | **-23.9068** | **12.57431** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **22** | **|** | **-5.023687** | **2.867802** | **-1.75** | **0.082** | **-10.68786** | **.6404852** |
| **23** | **|** | **-7.019493** | **6.144761** | **-1.14** | **0.255** | **-19.15596** | **5.116976** |
| **24** | **|** | **2.926849** | **3.034593** | **0.96** | **0.336** | **-3.066751** | **8.920449** |
| **25** | **|** | **-5.964157** | **8.4762** | **-0.70** | **0.483** | **-22.70543** | **10.77712** |
| **26** | **|** | **-5.536552** | **5.014897** | **-1.10** | **0.271** | **-15.44144** | **4.368332** |
| **27** | **|** | **2.492864** | **4.372495** | **0.57** | **0.569** | **-6.143216** | **11.12894** |
| **28** | **|** | **-5.125713** | **5.552363** | **-0.92** | **0.357** | **-16.09214** | **5.840716** |
| **29** | **|** | **.1913755** | **6.405328** | **0.03** | **0.976** | **-12.45974** | **12.84249** |
| **30** | **|** | **-.4407595** | **3.782032** | **-0.12** | **0.907** | **-7.91062** | **7.029101** |
| **31** | **|** | **-5.213538** | **5.686791** | **-0.92** | **0.361** | **-16.44547** | **6.018399** |
| **32** | **|** | **-2.51068** | **3.113457** | **-0.81** | **0.421** | **-8.660044** | **3.638685** |
| **33** | **|** | **-7.938027** | **7.337685** | **-1.08** | **0.281** | **-22.43063** | **6.554576** |
| **34** | **|** | **-12.05846** | **10.04655** | **-1.20** | **0.232** | **-31.90132** | **7.784397** |
| **35** | **|** | **-28.00342** | **40.76515** | **-0.69** | **0.493** | **-108.5183** | **52.5115** |
| **36** | **|** | **-2.914228** | **2.804385** | **-1.04** | **0.300** | **-8.453145** | **2.62469** |
| **37** | **|** | **2.279764** | **6.233302** | **0.37** | **0.715** | **-10.03158** | **14.59111** |
| **38** | **|** | **4.971154** | **2.61297** | **1.90** | **0.059** | **-.1897018** | **10.13201** |
| **39** | **|** | **-1.263304** | **2.879876** | **-0.44** | **0.662** | **-6.951325** | **4.424717** |
| **40** | **|** | **-4.208184** | **10.40179** | **-0.40** | **0.686** | **-24.75267** | **16.3363** |
| **41** | **|** | **-2.524365** | **6.603525** | **-0.38** | **0.703** | **-15.56694** | **10.51821** |
| **43** | **|** | **-6.403582** | **2.994547** | **-2.14** | **0.034** | **-12.31809** | **-.4890767** |
| **44** | **|** | **-10.25932** | **4.671457** | **-2.20** | **0.030** | **-19.48588** | **-1.032765** |
| **45** | **|** | **-1.619939** | **15.75515** | **-0.10** | **0.918** | **-32.73782** | **29.49794** |
| **46** | **|** | **-6.771856** | **5.651909** | **-1.20** | **0.233** | **-17.9349** | **4.391185** |
| **47** | **|** | **-6.548906** | **3.447397** | **-1.90** | **0.059** | **-13.35783** | **.2600204** |
| **49** | **|** | **-5.629311** | **3.126771** | **-1.80** | **0.074** | **-11.80497** | **.54635** |
| **50** | **|** | **1.944956** | **2.609225** | **0.75** | **0.457** | **-3.208504** | **7.098416** |
| **51** | **|** | **-6.279145** | **5.878007** | **-1.07** | **0.287** | **-17.88875** | **5.330459** |
| **52** | **|** | **-11.41965** | **4.275892** | **-2.67** | **0.008** | **-19.86493** | **-2.974375** |
| **53** | **|** | **-6.020082** | **4.636396** | **-1.30** | **0.196** | **-15.17739** | **3.137228** |
| **54** | **|** | **-1.805542** | **2.688193** | **-0.67** | **0.503** | **-7.114972** | **3.503887** |
| **55** | **|** | **-8.94117** | **3.541947** | **-2.52** | **0.013** | **-15.93684** | **-1.9455** |
|  | **|** |  |  |  |  |  |  |
| **\_cons** | **|** | **16.37278** | **2.925841** | **5.60** | **0.000** | **10.59397** | **22.15158** |

**------------------------------------------------------------------------------**

**MODEL 3: QUALIFIED OPINION ONLY**

**. \*(10 variables, 359 observations pasted into data editor)**

**. reg zscore big4 audt afrr jota adly deta**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source |** | **SS** | **df** | **MS** | **Number of obs** | **=** | **351** |
| **-------------+----------------------------------** | | | | **F(6, 344)** | **=** | **29.93** |
| **Model | 178.069091 6 29.6781819** | | | | **Prob > F** | **=** | **0.0000** |
| **Residual | 341.104531 344 .991582939** | | | | **R-squared** | **=** | **0.3430** |
| **-------------+----------------------------------** | | | | **Adj R-squared** | **=** | **0.3315** |
| **Total | 519.173622 350 1.48335321** | | | | **Root MSE** | **=** | **.99578** |

**------------------------------------------------------------------------------**

**zscore | Coef. Std. Err. t P>|t| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **big4 |** | **.1155481** | **.1083906** | **1.07** | **0.287** | **-.0976437** | **.3287399** |
| **audt |** | **-.0762686** | **.1192066** | **-0.64** | **0.523** | **-.3107341** | **.158197** |
| **afrr |** | **-.0461811** | **.0116422** | **-3.97** | **0.000** | **-.0690799** | **-.0232823** |
| **jota |** | **.2373687** | **.3078377** | **0.77** | **0.441** | **-.3681125** | **.8428498** |
| **adly |** | **-.0009448** | **.0005571** | **-1.70** | **0.091** | **-.0020405** | **.0001508** |
| **deta |** | **-.0126486** | **.0011011** | **-11.49** | **0.000** | **-.0148144** | **-.0104828** |
| **\_cons |** | **1.674267** | **.1457471** | **11.49** | **0.000** | **1.3876** | **1.960935** |

**------------------------------------------------------------------------------**

**. vif**

**Variable | VIF 1/VIF**

**-------------+----------------------**

|  |  |  |
| --- | --- | --- |
| **adly |** | **1.10** | **0.911155** |
| **deta |** | **1.09** | **0.919114** |
| **big4 |** | **1.02** | **0.977904** |
| **jota |** | **1.02** | **0.982021** |
| **afrr |** | **1.01** | **0.987281** |
| **audt |** | **1.01** | **0.987845** |

**-------------+----------------------**

**Mean VIF | 1.04**

**. hettest**

**Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance**

**Variables: fitted values of zscore**

|  |  |  |
| --- | --- | --- |
| **chi2(1)** | **=** | **302.14** |
| **Prob > chi2** | **=** | **0.0000** |

**. egen croid = group ( companies)**

**. xtset croid year**

**panel variable: croid (unbalanced)**

**time variable: year, 2011 to 2020, but with gaps delta: 1 unit**

**. xtreg zscore big4 audt afrr jota adly deta, fe**

|  |  |  |
| --- | --- | --- |
| **Fixed-effects (within) regression** | **Number of obs =** | **351** |
| **Group variable: croid** | **Number of groups =** | **63** |
| **R-sq:** | **Obs per group:** |  |
| **within = 0.1416** | **min =** | **1** |
| **between = 0.4622** | **avg =** | **5.6** |
| **overall = 0.3269** | **max =** | **10** |
|  | **F(6,282) =** | **7.75** |
| **corr(u\_i, Xb) = 0.3837** | **Prob > F =** | **0.0000** |

**------------------------------------------------------------------------------**

**zscore | Coef. Std. Err. t P>|t| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **big4 |** | **.2183961** | **.1566278** | **1.39** | **0.164** | **-.0899119** | **.5267041** |
| **audt |** | **-.0934785** | **.1040855** | **-0.90** | **0.370** | **-.2983616** | **.1114046** |
| **afrr |** | **-.0263954** | **.0118532** | **-2.23** | **0.027** | **-.0497274** | **-.0030633** |
| **jota |** | **.122244** | **.4655628** | **0.26** | **0.793** | **-.7941754** | **1.038663** |
| **adly |** | **-.0007329** | **.0005353** | **-1.37** | **0.172** | **-.0017866** | **.0003208** |
| **deta |** | **-.0064281** | **.0011501** | **-5.59** | **0.000** | **-.0086919** | **-.0041643** |
| **\_cons |** | **1.108066** | **.1455891** | **7.61** | **0.000** | **.8214865** | **1.394645** |
| **--------+----------------------------------------------------------------**  **sigma\_u | .7671079** | | | | | | |
| **sigma\_e |** | **.76600899** |  | | | | |
| **rho |** | **.50071678** | **(fraction of variance due to u\_i)** | | | | |

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**------------------------------------------------------------------------------**

**F test that all u\_i=0: F(62, 282) = 4.83 Prob > F = 0.0000**

**. estimate store fe**

**. xtreg zscore big4 audt afrr jota adly deta, re**

|  |  |  |
| --- | --- | --- |
| **Random-effects GLS regression** | **Number of obs =** | **351** |
| **Group variable: croid** | **Number of groups =** | **63** |
| **R-sq:** | **Obs per group:** |  |
| **within = 0.1403** | **min =** | **1** |
| **between = 0.5050** | **avg =** | **5.6** |
| **overall = 0.3394** | **max =** | **10** |
|  | **Wald chi2(6) =** | **93.11** |
| **corr(u\_i, X) = 0 (assumed)** | **Prob > chi2 =** | **0.0000** |

**------------------------------------------------------------------------------**

**zscore | Coef. Std. Err. z P>|z| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **big4 |** | **.1823237** | **.1234798** | **1.48** | **0.140** | **-.0596923** | **.4243396** |
| **audt |** | **-.0822878** | **.1030483** | **-0.80** | **0.425** | **-.2842588** | **.1196832** |
| **afrr |** | **-.0332786** | **.0114564** | **-2.90** | **0.004** | **-.0557327** | **-.0108245** |
| **jota |** | **.118451** | **.3457141** | **0.34** | **0.732** | **-.5591361** | **.7960381** |
| **adly |** | **-.0008043** | **.0005159** | **-1.56** | **0.119** | **-.0018154** | **.0002068** |
| **deta |** | **-.0088519** | **.0010861** | **-8.15** | **0.000** | **-.0109806** | **-.0067231** |
| **\_cons |** | **1.362915** | **.1537809** | **8.86** | **0.000** | **1.061511** | **1.66432** |
| **--------+----------------------------------------------------------------**  **sigma\_u | .4849137** | | | | | | |
| **sigma\_e |** | **.76600899** |  | | | | |
| **rho |** | **.28609093** | **(fraction of variance due to u\_i)** | | | | |

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**------------------------------------------------------------------------------**

**. estimate store re**

**. xttest0**

**Breusch and Pagan Lagrangian multiplier test for random effects zscore[croid,t] = Xb + u[croid] + e[croid,t]**

**Estimated results:**

**| Var sd = sqrt(Var)**

**---------+-----------------------------**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **zscore |** | **1.483353** | **1.21793** | |
| **e |** | **.5867698** | **.766009** | |
| **u |** | **.2351413** | **.4849137** | |
| **Test:** | **Var(u) = 0** | **chibar2(01) =** | **147.48** | |
|  |  | **Prob > chibar2 =** | **0.0000** | |
| **. hausman fe re** |  | |  |  |
| **|** | **---- Coefficients ----**  **(b) (B)** | | **(b-B)** | **sqrt(diag(V\_b-V\_B))** |
| **|** | **fe re** | | **Difference** | **S.E.** |
| **-------------+----------------------------------------------------------------** | | | | |
| **big4 |** | **.2183961** | **.1823237** | **.0360724** | **.0963587** |
| **audt |** | **-.0934785** | **-.0822878** | **-.0111907** | **.0146571** |
| **afrr |** | **-.0263954** | **-.0332786** | **.0068832** | **.0030414** |
| **jota |** | **.122244** | **.118451** | **.003793** | **.3118181** |
| **adly |** | **-.0007329** | **-.0008043** | **.0000714** | **.0001429** |
| **deta |** | **-.0064281** | **-.0088519** | **.0024238** | **.0003782** |
| **------------------------------------------------------------------------------** | | | | |

**b = consistent under Ho and Ha; obtained from xtreg**

**B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic**

**chi2(6) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)**

**= 49.51**

**Prob>chi2 = 0.0000**

**(V\_b-V\_B is not positive definite)**

**. reg zscore big4 audt afrr jota adly deta i.croid**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source |** | **SS** | **df** | **MS** | **Number of obs** | **=** | **351** |
| **-------------+----------------------------------** | | | | **F(68, 282)** | **=** | **8.86** |
| **Model | 353.704547 68 5.20153745** | | | | **Prob > F** | **=** | **0.0000** |
| **Residual | 165.469076 282 .586769772** | | | | **R-squared** | **=** | **0.6813** |
| **-------------+----------------------------------** | | | | **Adj R-squared** | **=** | **0.6044** |
| **Total | 519.173622 350 1.48335321** | | | | **Root MSE** | **=** | **.76601** |

**------------------------------------------------------------------------------**

**zscore | Coef. Std. Err. t P>|t| [95% Conf. Interval]**

**-------------+----------------------------------------------------------------**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **big4** | **|** | **.2183961** | **.1566278** | **1.39** | **0.164** | **-.0899119** | **.5267041** |
| **audt** | **|** | **-.0934785** | **.1040855** | **-0.90** | **0.370** | **-.2983616** | **.1114046** |
| **afrr** | **|** | **-.0263954** | **.0118532** | **-2.23** | **0.027** | **-.0497274** | **-.0030633** |
| **jota** | **|** | **.122244** | **.4655628** | **0.26** | **0.793** | **-.7941754** | **1.038663** |
| **adly** | **|** | **-.0007329** | **.0005353** | **-1.37** | **0.172** | **-.0017866** | **.0003208** |
| **deta** | **|** | **-.0064281** | **.0011501** | **-5.59** | **0.000** | **-.0086919** | **-.0041643** |
|  | **|** |  |  |  |  |  |  |
| **croid** | **|** |  |  |  |  |  |  |
| **2** | **|** | **-3.002672** | **.3906045** | **-7.69** | **0.000** | **-3.771543** | **-2.233802** |
| **3** | **|** | **-.1122551** | **.5283608** | **-0.21** | **0.832** | **-1.152287** | **.9277766** |
| **4** | **|** | **.1037815** | **.4179948** | **0.25** | **0.804** | **-.7190045** | **.9265675** |
| **5** | **|** | **.3201393** | **.6155713** | **0.52** | **0.603** | **-.8915586** | **1.531837** |
| **6** | **|** | **.4557024** | **.6134686** | **0.74** | **0.458** | **-.7518564** | **1.663261** |
| **7** | **|** | **.1897677** | **.8194134** | **0.23** | **0.817** | **-1.423175** | **1.802711** |
| **8** | **|** | **.5342274** | **.8189945** | **0.65** | **0.515** | **-1.077891** | **2.146346** |
| **9** | **|** | **-1.993481** | **.4838162** | **-4.12** | **0.000** | **-2.945831** | **-1.041132** |
| **10** | **|** | **-.8925739** | **.4016549** | **-2.22** | **0.027** | **-1.683196** | **-.1019516** |
| **11** | **|** | **-.1126706** | **.4408985** | **-0.26** | **0.798** | **-.9805405** | **.7551994** |
| **12** | **|** | **.5692965** | **.8186738** | **0.70** | **0.487** | **-1.042191** | **2.180784** |
| **13** | **|** | **.0380488** | **.373068** | **0.10** | **0.919** | **-.6963028** | **.7724003** |
| **14** | **|** | **-.0190539** | **.3933199** | **-0.05** | **0.961** | **-.7932695** | **.7551617** |
| **15** | **|** | **-.6841683** | **.7053127** | **-0.97** | **0.333** | **-2.072514** | **.7041775** |
| **16** | **|** | **-.5243095** | **.5285112** | **-0.99** | **0.322** | **-1.564637** | **.5160183** |
| **17** | **|** | **.0572094** | **.4091672** | **0.14** | **0.889** | **-.7482002** | **.8626189** |
| **18** | **|** | **.0711601** | **.4476378** | **0.16** | **0.874** | **-.8099754** | **.9522955** |
| **19** | **|** | **-1.278229** | **.3898612** | **-3.28** | **0.001** | **-2.045637** | **-.510822** |
| **20** | **|** | **-2.851899** | **.5288928** | **-5.39** | **0.000** | **-3.892978** | **-1.81082** |
| **21** | **|** | **.3708686** | **.8190491** | **0.45** | **0.651** | **-1.241357** | **1.983095** |
| **22** | **|** | **.178615** | **.3697941** | **0.48** | **0.629** | **-.549292** | **.906522** |
| **23** | **|** | **.3235123** | **.41634** | **0.78** | **0.438** | **-.4960164** | **1.143041** |
| **24** | **|** | **.2854851** | **.8354785** | **0.34** | **0.733** | **-1.359081** | **1.930051** |
| **25** | **|** | **-.3765476** | **.477422** | **-0.79** | **0.431** | **-1.316311** | **.5632155** |
| **26** | **|** | **-.8934097** | **.3798038** | **-2.35** | **0.019** | **-1.64102** | **-.1457994** |
| **27** | **|** | **-.3047735** | **.3706415** | **-0.82** | **0.412** | **-1.034349** | **.4248017** |
| **28** | **|** | **.43964** | **.3642354** | **1.21** | **0.228** | **-.2773253** | **1.156605** |
| **29** | **|** | **-.7090476** | **.45037** | **-1.57** | **0.117** | **-1.595561** | **.177466** |
| **30** | **|** | **-.2043486** | **.6160793** | **-0.33** | **0.740** | **-1.417046** | **1.008349** |
| **31** | **|** | **-.0327109** | **.8189523** | **-0.04** | **0.968** | **-1.644746** | **1.579325** |
| **32** | **|** | **.2572719** | **.4733437** | **0.54** | **0.587** | **-.6744635** | **1.189007** |
| **33** | **|** | **-.402333** | **.8177187** | **-0.49** | **0.623** | **-2.01194** | **1.207274** |
| **34** | **|** | **-.3561608** | **.3732849** | **-0.95** | **0.341** | **-1.090939** | **.3786176** |
| **35** | **|** | **-1.434568** | **.388539** | **-3.69** | **0.000** | **-2.199373** | **-.6697633** |
| **36** | **|** | **.5262024** | **.4256697** | **1.24** | **0.217** | **-.3116909** | **1.364096** |
| **37** | **|** | **-.8219135** | **.4400902** | **-1.87** | **0.063** | **-1.688192** | **.0443653** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **38** | **|** | **.495112** | **.3990674** | **1.24** | **0.216** | **-.2904171** | **1.280641** |
| **39** | **|** | **.2337739** | **.4082962** | **0.57** | **0.567** | **-.5699213** | **1.037469** |
| **40** | **|** | **.1118946** | **.6102522** | **0.18** | **0.855** | **-1.089333** | **1.313122** |
| **41** | **|** | **.2632002** | **.8197132** | **0.32** | **0.748** | **-1.350333** | **1.876733** |
| **42** | **|** | **.215922** | **.4151909** | **0.52** | **0.603** | **-.6013446** | **1.033189** |
| **43** | **|** | **-.3969499** | **.5727047** | **-0.69** | **0.489** | **-1.524269** | **.7303688** |
| **44** | **|** | **-.5771441** | **.3957608** | **-1.46** | **0.146** | **-1.356164** | **.2018762** |
| **45** | **|** | **-.1087824** | **.8184763** | **-0.13** | **0.894** | **-1.719881** | **1.502316** |
| **46** | **|** | **-.4583312** | **.3900635** | **-1.18** | **0.241** | **-1.226137** | **.3094745** |
| **47** | **|** | **-.1581873** | **.5284628** | **-0.30** | **0.765** | **-1.19842** | **.8820452** |
| **48** | **|** | **-.8667839** | **.4173565** | **-2.08** | **0.039** | **-1.688313** | **-.0452543** |
| **49** | **|** | **.2804462** | **.4402** | **0.64** | **0.525** | **-.5860488** | **1.146941** |
| **50** | **|** | **.4759838** | **.5285176** | **0.90** | **0.369** | **-.5643565** | **1.516324** |
| **51** | **|** | **-2.010855** | **.4295521** | **-4.68** | **0.000** | **-2.856391** | **-1.16532** |
| **52** | **|** | **-.3125602** | **.3736158** | **-0.84** | **0.404** | **-1.04799** | **.4228696** |
| **53** | **|** | **.4883358** | **.3860392** | **1.26** | **0.207** | **-.2715484** | **1.24822** |
| **54** | **|** | **-.5722668** | **.3879394** | **-1.48** | **0.141** | **-1.335891** | **.1913577** |
| **55** | **|** | **-1.013284** | **.4031311** | **-2.51** | **0.013** | **-1.806812** | **-.2197557** |
| **56** | **|** | **-.3065497** | **.3814164** | **-0.80** | **0.422** | **-1.057334** | **.4442348** |
| **57** | **|** | **.1006691** | **.3787365** | **0.27** | **0.791** | **-.6448403** | **.8461785** |
| **58** | **|** | **-.4315836** | **.5404792** | **-0.80** | **0.425** | **-1.495469** | **.6323021** |
| **59** | **|** | **.3741208** | **.3689615** | **1.01** | **0.311** | **-.3521474** | **1.100389** |
| **60** | **|** | **-.1823888** | **.4277144** | **-0.43** | **0.670** | **-1.024307** | **.6595293** |
| **61** | **|** | **.4185601** | **.5257929** | **0.80** | **0.427** | **-.616417** | **1.453537** |
| **62** | **|** | **-1.17321** | **.3774279** | **-3.11** | **0.002** | **-1.916144** | **-.4302769** |
| **63** | **|** | **.5020858** | **.6136739** | **0.82** | **0.414** | **-.7058771** | **1.710049** |
|  | **|** |  |  |  |  |  |  |
| **\_cons** | **|** | **1.479969** | **.3034481** | **4.88** | **0.000** | **.8826582** | **2.07728** |

**------------------------------------------------------------------------------**