



**Determinants of External Audit Quality: Evidence from
Manufacturing Share Companies in Addis Ababa Ethiopia.**

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Statement of Declaration

I, Bogale Arebu, have carried out independently a research work on “The determinants of external audit quality evidence from manufacturing share companies of Addis Ababa Ethiopia” in partial fulfillment of the requirement of the M.SC program in Accounting and Finance with the guidance and support of the research advisor.

This study is my own work that has not been submitted for any degree or diploma program in this or any other institution, and that all references materials contained therein have been duly acknowledged.

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Certification

This is to certify that the thesis prepared by *Bogale Arebu*, entitled: *The determinants of external audit quality evidence from manufacturing share companies of Addis Ababa Ethiopia* and submitted in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

Audit quality is a very debatable topic in the area of auditing for the last decades following the accounting scandals experienced in the West. One of the issues that gained momentum has been to analyze the external audit quality and the various determinant factors those influence it.

The purpose of this study is to investigate the determinants of external audit quality proxied by discretionary (abnormal) accrual based on audit firm specific and company related attributes that are considered vital by regulatory and professional bodies to properly monitor the external audit profession and to maintain trust among the various stakeholders in Ethiopian manufacturing share companies. In light of this objective the study adopted quantitative method of research approaches to test a series of research hypothesis. Specifically, the study used documentary analysis of companies' audited financial statements and personal inquiry with audit directors/officials of audit firms and company managers. Then companies were selected based on simple random sampling method to avoid biases and represent firms within manufacturing share companies under consideration. Consequently, the study selected a sample of eighteen (18) companies for the period of five years (2011-2015) with the total of 90 observations. The results of panel least square regression analysis show that certified audit professionals' and joint provision of audit and non-audit services have statistically significant and positive relationship with manufacturing share companies' external audit quality. On the other hand, size of independent non-executive board members and duality of chief executive officers has a negative and statistically significant relationship with large manufacturing shares' external audit quality. However, the relationship for audit firm size, audit firm industry specialization and audit firm tenure were found to be statistically insignificant. Therefore, this is a clear that all large manufacturing share companies in Ethiopia should maintain board independence and keep in mind audit firm characteristics while hiring of an audit firm for their audit services.

Keywords: external audit quality, audit-firm specific attributes, corporate governance attributes, earning management, discretionary (abnormal) accrual.

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Table of Content

Contents	Page
Statement of Declaration.....	i
Certification.....	ii
<i>Abstract</i>	iii
Acknowledgments	iv
Table of Content	v
List of Tables	vii
List of Figures.....	ix
Abbreviations.....	x
Chapter One: Introduction	1
1.1. Background of the Study	1
1.2. Statement of the Problem.....	3
1.3. Objective of the Study	7
1.3.1. General Objective.....	7
1.3.2. Specific Objectives.....	8
1.4. Hypothesis Formulation	8
1.5. Significant of the Study	9
1.6. Scope and Limitation of the Study.....	10
1.7. Organization of the Paper	10
Chapter Two: Review of Related Literature	12
2.1. The Concept of Audit Quality	12
2.1.1 Audit Quality Definitions.....	13
2.1.2. DeAngelo's Definition of Audit Quality	14
2.1.3. Regulations and Inspection Programs Related Definition.....	16
2.2. Underpinning Theories of External Audit Quality.....	17
2.2.1. Agency Theory.....	17

2.2.2. Signaling Theory	20
2.3. Determinants of External Audit Quality	22
2.3.1. Empirical review on Determinants of Audit Quality in Developed Countries	23
2.3.2. Empirical review on Determinants of Audit Quality in Developing Countries	31
2.3.3. Empirical Review on Determinants of Audit Quality in Ethiopia	38
2.4. Conclusion and Research Gap	41
Chapter Three: Research Methodology	43
3. Research Design and Methods	43
3.1. Research Approach	43
3.2. Sampling Design	44
3.3. Sources of Data and Data Collection Instruments	46
3.4. Variables Descriptions and Model Specification	47
3.4.1. Description of Dependent Variable	47
3.4.1.1. Discretionary/Abnormal Accruals Model	50
3.4.2. Descriptions of Independent Variables and their Measurements	55
3.4.2.1 Audit Firm Size	55
3.4.2.2 Industry specialization of audit firms	56
3.4.2.3 Audit Firm Tenure	57
3.4.2.4 Certified Professional Auditors Ratio	58
3.4.2.5 Provision of both audit and non-audit services	59
3.4.2.6. Size of Non-executive Board Members	61
3.4.2.7. Board Leadership Structure	62
3.5. Regression Model Specification	63
3.6. Data Analysis and Presentation	65

Chapter Four: Data Analysis and Discussion of Results.....	66
4.1. Descriptive Statistics	66
4.2. Correlation Test.....	70
4.3. Diagnostics Tests.....	72
4.3.1. Assumption 1: Errors Have Zero Mean or $E(u_t) = 0$	72
4.3.2. Assumption 2: Homoscedasticity (Variance of the Errors are Constant $\text{var}(u_t) = \sigma^2 < \infty$)	73
4.3.3. Assumption 3: Covariance between the Error Terms Over time is Zero (Autocorrelation) ...	74
4.3.4. Assumption 4: Normality Test.....	75
4.3.5. Assumption 5: Multicollinearity Test	76
4.4. Estimation of the Model	78
4.5. Regression Analysis	79
Chapter Five: Conclusions and Recommendations.....	92
5.1. Conclusions	92
5.2. Recommendations	95
References	97
Appendices	A

List of Tables

Table 4.1: correlation matrix of dependent and independent variables	67
Table 4.2: Heteroskedasticity Test: Breusch-Pagan-Godfrey	71
Table 4.3: Pearson correlation Coefficient matrix	73
Table 4.4: summary of descriptive statistics for the variables	77
Table 4.5: Hausmann test:	79
Table 4.6.: Random effect regression model result for the determinants of External audit quality	82

List of Figures

Figure 4.1: rejection and non-rejection region for DW test.....	74
Figure: 4.2: BJ normality test	76

Abbreviations

AACCSA	Addis Ababa Chamber of Commerce and Sectorial Associations
ACCA	Association of Chartered Certified Accountants
ACE	Alternative Stock Market on Bursa Malaysia
AIMR	Association of Investment Management and Research
CEO	Chief Executive Officers
CSE	Colombo Stock Exchange
DAC	Discretionary Accruals
DW	Durbin-Watson
GAAS	Generally Accepted Auditing Standards
GAAP	Generally Accepted Accounting principles
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
IAASB	Institutional Auditing and Assurance Standards Board
IAGs	International Auditing Guidelines
IFAC	International Federation of Accountants Committee
IFRS	International Financial Reporting Standards

JCBs	Jordanian Commercial Banks
MoFED	Ministry of Finance and Economic development
NAS	Non-Audit Services
NSE	Nigerian Stock Exchange
OFAG	Office of the Federal Auditor General
OLS	Ordinary Least Square
SPSS	Statistical Package for Social Sciences
TSE	Tehran Stock Exchange
UK	United Kingdom
VIF	Variance Inflation Factor

Chapter One: Introduction

This chapter provides precise and brief descriptions about background of the study, statement of the problem, objective of the study, scope and limitation of the study, study significant, and organization of the paper.

1.1. Background of the Study

Audit is playing an important role in developing and enhancing the global economy and business firms. Investor confidence is fundamental to the successful operation of the world's financial markets. When making decisions about capital allocation, investors need to know that financial information they are given is credible and reliable. The quality of audits and audit opinions expressed on financial reports are crucial to achieving a sustained investor's confidence. Independent auditors play a vital role in enhancing the reliability of financial information by attesting to the trustworthiness of the financial statements (Temitope, et al, 2013).

The need for external auditors may be seen as a response to the agency problem and the audit functions as a mechanism to attest to the accountability and stewardship of company management to reduce the possibility of innocent mistakes and deliberate misstatements such as fraud and management manipulation (Anderson et al, 1993). This implies that, external auditor play crucial role in providing reasonable assurance to the quality of financial information presented to stockholders and other users of financial statements. It is believed that quality of financial statements is more credible when audit service is performed with high quality. However provide a high quality audit service is not simple task and affected by audit firm specific as well as client related factors.

In developing countries like Ethiopia, the efficient practices of the auditors in their responsibilities have not yet developed very well (Muluneh 2007). World Bank (2007) also reported that most of the external auditors in Ethiopia complain audit quality in the country was very low. This raises the question of what audit quality is and the determinant factors affecting it. However, the concept of audit quality has proved difficult to define with certainty. It is not immediately or directly observable and is difficult to measure (Power, 1997). Moreover, audit markets' participants have conflicting roles and different expectations that lead to different interpretations of audit quality (Sutton, 1993). As a result, different people tend to have different definitions and ways of measuring it (Rasmussen & Jensen, 1998; Watkins et al., 2004), which suggests ambiguity and subjectivity in the term audit quality. The most used definition of audit quality was DeAngelo's (1981) which expresses the quality in terms of auditor's competence and independence. The quality is then dependent on the probability that the auditor will both discover a breach and report that breach (DeAngelo, 1981.p.186).

Following, the above mostly used definition of audit quality, numerous studies were conducted in developed as well as developing economies in vary magnitude to examine the variable those influence the quality of auditing (e.g. Craswell et al. 1995; Becker et al. 1998; Dehkordi and Makarem 2011) and number of factors were discovered. These studies were conducted in different countries with different audit market environment.

Audit market environment in Ethiopia was characterized by stiff competition triggered by the bidding system to obtain audit clients among auditors, absence of international Big auditors in the country and there is no strong professional body in charge of regulating the accounting and auditing profession and consistent rules applicable in discharging professional responsibilities (World Bank 2007).

This unique feature of the audit market entails many concerns on the external audit practice in the country. World Bank (2007) also reported that most of the external auditors in Ethiopia complain audit quality in the country was very low. Hence, the purpose of this thesis is to examine factors determine the audit quality service provided by external auditors for manufacturing share companies in Ethiopia.

Having this unique feature of audit market environment, over the years, various researchers like Mihret (2010), Muluneh (2007), Adane (2014), Bethlehem (2009), Bethitina (2015), and Tamirat (2014) in their different capacities have taken a closer look at auditing practice in Ethiopian with respect to internal and external auditors. However, most of prior studies of external audit quality concentrates on audit firm specific factors (Bethitina, 2015; Adane (2014), and Amisalu (2011) and less considered have given for corporate governance attributes in manufacturing share companies. Therefore, the aim of this study was to fill this gap by identifying the determinants of external audit quality in Ethiopian manufacturing share companies

1.2. Statement of the Problem

The production of a quality audit report is perceived to foster engendered confidence in financial reports by the users of those reports. Investors in particular tend to place better trust in financial statements that are audited; as the expected independence of the auditor boosts the assurance that important investment decisions can be made on the thrust of those statements. The increased confidence of these set of financial statement users tend to attract the inflow of capital which has the long-run effect of creating growth and development in the business environment (Adeyemi&Fagbemi, 2010). Financial statement users make long-term decisions based on financial statement and desire to have fairly presented figures. This implies that, credible

financial statements those free from fraud and errors are crucial for smooth capital flow and wealthy economic development.

However, in some circumstances inefficiencies on the part of management could lead to 'structured financial statements'. These financial statements ordinarily do not show the true state of affairs and financial position of the organization and hence, endanger the decisions of prospective investors. Adverse results on investment would reduce the credibility of the financial statements; which would in turn reduce the level of capital flow, thereby deteriorating the state of the business environment (Securities and Exchange Commission, 2000). Protections of potential investors suffer from adverse result of investment decision and attainment of attractive economic environment requires control of such manipulation actions of management.

High auditing quality diminishes information asymmetry and minimizes uncertainty concerning credibility of financial information particularly earnings, which is commonly occasioned by discretionary accruals manipulations that are likely to present some problems for a true and qualitative earnings report in developing economies (Francis and Dechow 2008).

Accounting scandals that have been experienced in the last few years such as Enron, Arthur Anderson and World Com have affected the regulators trust of financial statements. The total demise of Arthur Anderson in 2002, one of the Big 5 of U.S public accounting firms, sent shock waves all over the world and is often viewed as having generated considerable stress on the principles of accountancy (Gendron, et. al., 2006). This scandal and its subsequent results was a main reason for drawing attention towards the quality of financial statements. Moreover, the financial crisis which has affected most of the world in the recent years has pushed up the demand for high quality audits. Fargher and Jiang (2008) found that auditors were more likely to

issue going concern opinions for financially stressed companies immediately after the crisis. This result may signal that auditors are being more watchful after such crisis and that they now tend to perform their work in a highly ethical and ensure the quality of their work. Generally, audit quality is viewed as one of the main factors that affect the credibility of financial information and the higher the audit quality is, results in the information being more accurate. This great impact of high level audit quality can be a motive for deep research and insight in audit quality and the factors that may affect it.

In addition, research into audit quality and gaining an understanding of factors that affect audit quality is important because it can help regulators and the accounting profession to formulate policy based on empirical evidence rather than on a priori assumptions (Schelluch and Thorpe 1995).

However, audit quality in previous research has been given a big emphasis, in developed countries especially in Western context, while has been ignored in less developed countries (Fawzi, A. S., 2014). To date, more studies are well come for audit quality on developing countries especially issues on audit quality determinants.

According to World Bank (2007), the Ethiopian audit market was characterized by; first, there was no strong professional body in charge of regulating the accounting and auditing profession and consistent rules applicable in discharging professional responsibilities. Second, for a long period of time the international Big auditors has no presence in the country. This feature of the audit market may have an important implication on the level of audit quality.

In addition to unique feature of audit market, Ethiopia did not have a quality assurance and professional indemnity insurance program for auditors and the country has not yet experienced

litigation on financial reporting (World Bank 2007). This may indicate that the quality concern given to the audit service is relatively weak and may serve as a means for auditors to reduce audit procedures in their engagement while being competitive in the thin audit market. Given such intense competition along with lower concern for audit quality, it would be reasonable to expect such threats to arise in Ethiopian context.

However, it is unfortunate that no more study conducted to the best of the researcher knowledge, in audit quality in Ethiopia. Those scantily studied papers also did not consider company related factors, rather focused on audit firm specific factors. Let alone Ethiopia, which had problematic accounting and auditing practice, countries with advanced practices couldn't stop their high profile companies from falling. Therefore, given such a unique audit environment characterized by regulatory laxities in the accounting profession, and lower audit quality concern afforded in the country, it is imperative to investigate the factors that determine audit quality in the Ethiopian manufacturing share companies' context.

Since this is among the few researches conducted in external audit quality determinants those considered audit firm-specific factors and the first investigation that include client related determinant factors in Ethiopian context as per the researcher's knowledge concern, the purpose of this study is to develop some preliminary ground work that a more detailed evaluation could be based and to fill the stated gap by analyzing the external audit quality of manufacturing share companies in Addis Ababa Ethiopia, given that these companies as they collectively form the major chunk of the economy of the country and their financial transparency has a paramount importance to various stakeholders.

Therefore, the study attempted to address the following research questions;

- I. What are audit firm- related factors those enhance or impair audit quality services of manufacturing share companies in Addis Ababa Ethiopia?
- II. What are the corporate governance attributes that affect external audit quality of manufacturing share companies in Addis Ababa Ethiopia?
- III. What factors are the most important for the study area?

1.3. Objective of the Study

The study has both general and specific objectives.

1.3.1. General Objective

The main objective of the study was to investigate audit quality determinants of manufacturing share companies in Addis Ababa Ethiopia. Based on the audit firm specific and corporate governance attribute factors that are found to significantly influence audit quality in prior studies, the study assessed the factors that have significant impact on audit quality of manufacturing share companies in Addis Ababa Ethiopian.

Specifically, the study evaluated whether audit quality is influenced by audit firm industry specialization, audit firm size, the length of audit firm tenure in providing auditing services, auditors' qualification and proficiency, provision of both audit and non audit services for the same client board leadership structure, and size of independent non-executive board members.

1.3.2. Specific Objectives

To conveniently achieve the above overall objective the study focused on the following specific objectives:

- I. Investigate audit firm factors that may affect the audit quality of manufacturing share companies in Addis Ababa Ethiopia.
- II. Examine the corporate governance attributes that impair or enhance external audit qualities of manufacturing share companies in Addis Ababa Ethiopia.
- III. Determine the most important factors affecting external audit quality of manufacturing share companies in Addis Ababa Ethiopia.

1.4. Hypothesis Formulation

To conveniently achieve the above mentioned specific objectives of the study the following hypothesis were statistically tested:

H_1 : there is significant positive relationship between audit firm sizes and audit quality of manufacturing share companies.

H_2 : there is significant positive relationship between auditors' industry specialization and external audit quality of manufacturing share companies.

H_3 : there is significant negative relationship between short term audit firm tenure and external audit quality of manufacturing share companies.

H_4 : there is significant positive relationship between auditor's qualification and proficiency and audit quality of manufacturing share companies.

H₅: there is negative relationship between joint provision of audit and non audit services and external audit quality of manufacturing share companies.

H₆: there is significant positive relationship between size of independent non-executive directors and audit quality of manufacturing share companies.

H₇: there is significant negative relationship between CEO duality and audit quality of manufacturing share companies.

1.5. Significant of the Study

After its successful completion the study would have the following significance:

First, since the study was among the fewest studies of audit quality it had a contribution towards other researchers as a source of reference and as a stepping stone for those who want to furnish further insights into prevailing determinant factors that affect external audit quality in developing countries context, particularly in manufacturing share companies sectors in Ethiopia.

Second, knowledge of determinants of audit quality should be of interest and importance to suppliers and users of the audit services (Lam and Chang 1998). So, by identifying the most important determinants of audit quality, it helps manufacturing share companies.

Third, as Schelluch and Thorpe (1995) stated gaining an understanding of factors that affect audit quality is important because it can help regulators and the accounting profession to formulate policy based on empirical evidence rather than on a priori assumptions. Accordingly, the study would provide a base for regulators and accountancy body to formulate policy.

1.6. Scope and Limitation of the Study

From broadest and most interesting topics of audit the scope of the study was limited to factors affecting external audit quality in Ethiopian context especially in case of manufacturing share companies. Despite the importance of internal audit quality, the study limits itself on external audit quality and its determinants. That is to say the word auditors in this study refer only to external auditors. This is because the scopes of functions for external and internal auditors are different in nature. Finally, the result of this thesis may suffer from the following limitation. First, scarce previous research studies and accessibility of sufficient current literatures on the subject of external audit quality and the factors that affect audit quality in the context of Ethiopian may be one of the limiting factors. Second, although analyzing audit firm specific factors as well as company related determinant factors that might explain external audit quality is equally important this study more focused on audit firm-specific factors and can be considered as the other limitation of the study.

Despite, the above first limitation of the study the researcher made his maximum effort to understand audit quality and its determinant factors, to design the research as properly as possible and to achieve specified objectives.

1.7. Organization of the Paper

The study was organized into five chapters. Chapter one presents the introduction aspect of the research which includes: background of the study, statement of the problem, objectives, research questions and hypothesis of the study, scope and limitation of the study, significance of the study and organization of the paper itself. Chapter two contains a review of literature of most significant theoretical and empirical studies. The research design and methodology was

presented in chapter three. Chapter four contained information about results and discussions that was, the findings of all different methods used in this study were Poole together and the research questions answered. Finally, in chapter five major findings and possible recommendations were presented.

Chapter Two: Review of Related Literature

The first chapter gives introduction about the problem to be investigated in this study. Under this particular part the researcher presented related materials reviewed regarding to the research topic. This chapter has both theoretical perspective and empirical studies of external audit quality and its determinants factors. The theoretical framework consists of a discussion and a presentation of audit quality concepts, and underpinning theories of external audit since; they are related to research question and need further clarification. Next prior empirical studies of external audit quality were discussed. Lastly the conclusion and knowledge gap from the overall review of related literatures were presented. Hence, chapter two serves as background for this study by describing concepts of external auditing quality and factors that could influence external audit quality. As per the researcher believe all material relevant to adequately understand the concept of external audit quality and its determinants factors that may enhance or impair it were considered. This asserts that the result and analysis of the study were robust.

2.1. The Concept of Audit Quality

Without having enough understanding of the concept of audit quality, and the role of high quality audit, it is hardly possible to think about factors that may enhance or impair audit quality. Consequently, the starting point of this part emphasizes on the concept of audit quality, role of auditors followed by audit quality.

2.1.1. Audit Quality Definitions

It is obvious that, different external users need to have financial statements which are audited by quality auditors through high quality audit service to make sound decisions in their respective business environment. This expression leads to the question “what does it mean by audit quality?” Therefore within this sub section the researcher tries to present audit quality concept.

There is a vast body of literature relating to audit quality and its measurement. Despite the extent of that literature, no single generally accepted definition or generally accepted measure of audit quality has emerged. Different scholars define audit quality in different ways. As per the existing literature the absence of generally accepted definition of audit quality, is due to the presence of different parties in the financial reporting process and audit market environment. These audit market participants can be grouped into three categories: first, external financial information users, second, audit clients, and third, auditors (Sutton, 1993). Perception of audit quality can depend very much on whose eyes one looks through. Users, auditors, regulators and other stakeholders in the financial reporting process may have very different views as to what constitutes audit quality, which influences the type of indicators one might use to assess audit quality.

The user of financial reports may believe that high audit quality means the absence of material misstatements. The auditor conducting the audit may define high audit quality as satisfactorily completing all tasks required by the firm's audit methodology. The audit firm may evaluate a high audit quality as one for which the work can be defended against challenge in an inspection or court of law. Regulators may view a high quality audit as one that is in compliance with professional standards.

Finally, society may consider a high quality audit to be one that avoids economic problems for a company or the market. In the end, different views suggest different metrics.

2.1.2. DeAngelo's Definition of Audit Quality

The most widely used definition of audit quality is DeAngelo's (1981, p.186), stating 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", as quite a number of other papers have cited that, or have similar implied definition. 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 example, Seyyed (2013) 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.

Although DeAngelo's definition is the most cited definition of audit quality, the problem is that audit quality according to this definition cannot be observed let alone measured. Audit quality measures based on this definition is indirect methods of measuring audit quality with the aid of indicators. DeAngelo's definition connects audit quality one to one with financial reporting quality. A financial report where all accounting breaches have been detected and reported by the auditor represents high audit quality. Therefore, the level of assurance that no material error remains undetected and unreported is the metric of audit quality in DeAngelo's definition.

The other difficulty of this definition is that it doesn't fully capture the potentially conflicting role of various audit market participants and limits itself to technical definition of quality.

Another stream of defining audit quality focuses on the accuracy of the information reported by the auditors. Titman and Trueman (1986; cited in Behn and Choi, 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. This means a higher quality audit increases the probability that the financial statements more accurately reflect the financial position and results of operations of the entity being audited.

Besides, another set of definitions concentrates on the degree to which the audit conforms to applicable auditing standards. Government Accountability Office (2003; cited in Bedard et al.(2010) defines a high-quality audit as an audit ~~in~~ accordance with generally accepted auditing standards to provide reasonable assurance that the audited financial statements and related disclosures are presented in accordance with generally accepted accounting principles and are not materially misstated whether due to errors or fraud". Furthermore, it is suggested by elas Heras (2012) that audit quality is the probability of detecting audit failure, disciplining auditors and incentivizing them to constrain managerial opportunism, which is closely related to auditing standards.

According to this definition, the auditor performs with excellent quality if he/she complies completely with all relevant standards. In this perspective, the level of compliance with auditing standards reflects the level of audit quality. Peer review findings, inspection results of oversight boards (such as the OFAG in Ethiopia) as well as lawsuits against auditors are in this case the best indicators for audit quality.

Criticism of this approach is evident. The overall objective of an audit is not to best comply best with relevant standards; instead it is to ensure high quality financial reporting.

2.1.3. Regulations and Inspection Programs Related Definition

International Auditing and Assurance Standards Board (2011) suggests that “auditing is a discipline that relies on competent individuals using their experience and applying integrity, objectivity and skepticism to enable them to make appropriate judgments that are supported by the facts and circumstances of the engagement”, which implies that high audit quality should be of satisfied independence and competence of auditors in order to ensure the reports are qualified. International Auditing and Assurance Standards Board (IAASB) also indicates that a high level of audit quality is best supported and sustained if preparers, audit committees, auditors, standard-setters, professional bodies, and regulators collectively work together towards achieving this common goal.

To sum up, DeAngelo’s (1981) explanation of audit quality in terms of competence and independence was comprehensive and has penetrated in a wide range of audit research literature and its impact is long-lasting. However, variations in stakeholder perspectives make it difficult to reach an agreement on a single and universal definition of audit quality, which indicates that no single element should be assumed as having the dominant influence on audit quality (IAASB, 2011). Therefore, audit quality was defined by multiple criteria such as competence and independence, the reliability of audited output of financial reports, compliance with regulatory standards or occasionally the quality of audit process. Under the next part underpinning theory of external audit quality discussed in detail.

2.2. Underpinning Theories of External Audit Quality

Theories have their own contribution to about the subject matter under consideration. Like that of other field of study external audit quality has its own theories. Therefore, in this sub-section of the study researcher discuss audit quality theory that is used in most previous studies.

As discussed in sec.1.1 Anderson et al, (1993) stated that, the need for external auditors may be seen as a response to the agency problem and the audit functions as a mechanism to attest to the accountability and stewardship of company management to reduce the possibility of innocent mistakes and deliberate misstatements such as fraud and management manipulation. This indicates that, the agency theory framework has the ability to explain the motivations for earnings management. It also explains the expected association between audit firm as well as corporate governance attributes and earnings management. Thus, this study draws on agency theory to test whether hypothesized relationships exist between audit firm and corporate governance attributes and the incidence of discretionary accrual as a measure of earnings management and hence external audit quality.

2.2.1. Agency Theory

Agency theory and the theory of the firm as we know it today are mainly developed within the Chicago school of economics. Scholars as Frank (1921), Ronald (1937) and Eugene (1970) have led the foundation of the current agency theory and the theory of the firm (Duits, 2012).

The agency theory is based on the relationship between the principal (owners) and the agent (managers). The separation of ownership from management in modern corporations provides the context for the function of the agency theory. Modern organizations have widely dispersed

ownership, in the form of shareholders, who are not normally involved in the management of their companies. Modern corporations' day today activities performed in the organization are managed by managers (agents) on behalf of shareholders to achieve the overall organization's objectives mostly wealth maximization.

In the case of agency relationship usually agents (managers) motivated by their personal interests and they do to satisfy their own personal benefit rather than maximize shareholders' value. Therefore, in the modern corporation, share ownership is widely held and managerial actions depart from those required to maximize shareholder returns. Jensen and Meckling, (1976) argued that, Since the relationship between the stockholders and manager of a corporation fit the definition of a pure agency relationship it should be no surprise that the issues associated with the "separation of ownership and control" in the modern diffuse ownership corporation are intimately associated with the general problem of agency. Jensen and Meckling (1976) integrate elements from agency theory, the theory of property rights and the theory of finance to develop a theory of the firm. They define an agency relationship as "a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves some decision making authority to the agent." It is assumed that both parties are utility maximizers and that principals and agents act rationally and use completed contracting to maximize their wealth. A consequence of the latter assumption may be the "moral hazard" problem, as the agents may face the dilemma of acting against the interests of their principals. Since principals do not have access to all available information at the time a decision is being made by an agent, the principals are unable to determine whether the agent's actions are in the best interest of the firm. To reduce the likelihood of this problem ("adverse selection") and

to limit the possible divergence from their interests by the agent, the principals can limit these divergences by appointing independent external auditors.

For instance, managers may want to buy luxury products such as lavish offices and company cars, since the costs incurred by the owners. This increases organizations cost which includes cost of contracts, losses due to inappropriate decisions made by the agent and cost of monitoring actions of agents. The effect of such behaviors are ultimately reflected on the firms' earning (Leuz et al. 2003)

On the other hand, management has an agreement to receive performance related pay like bonus based on organizations profitability. This creates an incentive to manage the firm's reported earnings in order to meet or beat earning target and resulted in information asymmetry in that managers can exercise the discretionary they have on accruals, which in turn reduces the accuracy of reported earning and financial information as a whole.

When management provides inaccurate financial reporting information, it introduces earnings management as a type of agency cost and the management cannot be fully trusted (Davidson et al. 2005). Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy and Wahlen 1999, p. 368).

Therefore, the managers should be monitored either by the principals or external auditors to protecting shareholders' interest from being compromised when managers maximize their self interest at the expense of the organization's value.

External auditors appointed by principals as an agent based on contract are expected to be independent of managers of their company. They act on behalf of shareholders and enable them to closely monitor managers' actions. The role of external auditor is to reduce agency costs by avoiding information asymmetry in financial reporting and decrease opportunities of managers' manipulation (piot, 2001).

External auditors mainly provide financial statement audit services, and the primary objective of financial statement audit is to assure that these financial statements are free from material misstatements due fraud or error.

Among those financial statement items, earnings regarded as the most significant since, it providing useful information for measuring the efficiency of management, predicting the entity's future performance and distribution of earnings, defining a base for determination of taxes, taking account of the price of products and so on (Hajizadeh and Rahimi 2012).

From agency theory point of view, earning management is considered as agency problem, but this problem can be minimize by having external auditors who provides high quality audit services. More specialized independence external auditors are able to reduce earning management activities.

2.2.2. Signaling Theory

Signaling theory states that information asymmetry between management and other stakeholders such as board of directors leads the later need of intensive control.

Under signaling theory, management of companies with agency problems have incentive to signal to the market that they have effective internal corporate governance and attempt to reduce

agency costs and increase the value of the company by appointing a high profile external auditor who goes through strict and intensive external audit to assure the stakeholders that management works to their interest (Wang, 2009). In this respect, Zaman et al. (2011) contended that firms with effective internal governance devote more time to monitor external audit more effectively than firms with low quality internal governance to minimize potential risk litigation and maintain their reputation. This would increase the scope of external audit to ensure its quality.

According to the signaling theory, control mechanisms are complementary in the sense that the quality of one control mechanism is expected to be positively associated with the quality of another control mechanism. The notion underlying this viewpoint is that companies that need greater control would simultaneously utilize several different control dimensions (Hay et al., 2008). From this perspective, high audit quality should be positively associated with (other) high-quality governance structures. Similarly, this study expect positive association between high external audit quality and independent board of directors and absence of CEO duality; i.e. indicator of effective corporate governance.

Generally, there are two competing arguments with respect to the relationship between board independence and audit quality. One view is that a more independent board reduces external auditors' functions through its greater control of the monitoring environment, allowing it to reduce both the auditor's assessment of control risk, and the extent of audit procedures. In this scenario, there would be substitution effects between board independence and external audit fees (Abbott et al., 2003; Hay et al., 2006). An alternative view is that a more independent board is concerned with effectively discharging its monitoring role, thereby increasing pressures to enhance the external audit function (Hay et al., 2006) to complement their role. Independent directors have the following incentives and abilities. First, boards share with auditors the

objective of identifying and rectifying reporting errors made by managers to promote shareholders' interests. Second, in order to protect their reputational capital and to avoid legal liability, independent directors have incentives to reinforce their monitoring task by requesting more audit services (Carcello et al., 2002). Third, independent directors are limited by their inferior information compared to corporate executives (Jensen, 1993; Adams et al., 2010), thus reducing their monitoring abilities and increasing their need to depend more heavily upon auditors. Finally, independent board members are able to enhance the scope of the audit to complement their monitoring function without bearing the cost (O'Sullivan, 2000).

2.3. Determinants of External Audit Quality

Afterward DeAngelo's (1981) audit quality definition, numerous studies were conducted in developed as well as developing economies to examine the variable those influence the quality of auditing (e.g. DeAngelo, 1981; Craswell et al. 1995; Becker et al. 1998; Dehkordi and Makarem 2011; Balsam et al. 2003; Krishnan 2003) and number of factors were discovered. Among these factors, which have been found by a number of studies to influence the quality of auditing were audit firm industry specialization, audit firm size, audit firm tenure, auditors' certification and professional ratio, joint provision of audit and non audit services, board leadership structure and size of non-executive board members. This section briefly discusses what previous studies says about the relationship between audit quality determinants considered in this study (audit firm industry specialization, audit firm size, audit firm tenure, auditors' certification and professional ratio, joint provision of audit and non audit services, board leadership structure, and size of independent non-executive board members).

2.3.1. Empirical review on Determinants of Audit Quality in Developed Countries

DeAngelo (1981) examined the relationship between audit quality and the size of the audit firm for a sample of United States banks.

Using the granger causality model, she showed that the auditing quality and the size of the audit firm to be positively related. Further DeAngelo (1981) demonstrated analytically that larger audit firms have several clients and less likely to be economically dependent upon the revenue from simply one or two and this serves as an incentives to detect material errors and irregularities in order to maintain their professional reputation, resulted in increased auditor independence, which is a recognized principal component of audit quality. The result was confronted with signaling theory and in this context, it is predicted that a higher quality auditor is more likely to control inappropriate behavior of the client_s management and, thus, more likely to control earnings manipulation and ensure accurate financial information is issued.

Craswell et al. (1995) investigates the impact of auditors' size and auditors' industry specialization on the level of audit quality. Craswell et al. (1995) use 1987 audit fee data for 1,484 publicly traded Australian firms in their study. Using OLS regression model with the natural log of audit fee as dependent variables, the researchers reported that Big 8 auditors realize approximately 30% fee premia over non-Big 8 auditors. This fee premia in the study result was interpreted as since, Big 8 auditors exert greater efferent which enable them to detect material errors and fight against earning management of clients, Big 8 auditors realize high fee premmia than non-Big 8 auditors.

The regression result also revealed that, auditors with higher market share (i.e. industry specialized auditors) provide higher audit quality than auditors with small market share (i.e. non-industry specialist auditors) hence, Big 8 industry specialist auditors realize fee premia of approximately 34% over Big 8 non specialist.

Becker et al. (1998) examined the relationship between audit quality and earning management for a sample of approximately 12, 500 firm for the four year period from 1989-1992. They used discretionary accruals estimated with a cross sectional version of the Jones (1991) model, as a proxy for audit quality. Becker et al. (1998) compare income increasing discretionary accruals and the level of absolute discretionary accruals reported by clients of Big 6 and non-Big 6 auditors; found that clients of Big 6 auditor's report significantly lower discretionary accruals than non-Big 6 auditors, provides evidence that Big 6 auditors are more effective at curbing their clients earning management activities.

Further, the study supports the idea that larger auditors have more to lose in terms of quasi-rents and reputations by providing sub-standard audits than do small auditors and auditors with large number of more divert audit clients, are faced with less client influence than smaller auditors.

In contrast to the above findings of positive association of audit firm size and external audit quality, the result of the study conducted by Louis and Robinson indicates that there is no difference on the quality of financial information audited by large audit firms and small audit firms. Louis and Robinson (2005) examined the factors of external audit quality by proposing the hypothesis that audit firm size has an effect on audit quality. Seventeen Korean manufacturing share companies that experienced corporate fraud were used as a sample in the study. The authors used discretionary accruals as audit quality proxy and employed the modified Jones

model in attempt to control for differences in client characteristics between the two audit firm groups while estimating the audit-quality effects. Their regression result indicated that, there was no significant relationship between audit firm size and audit quality

The authors also suggested that audit firm size alone should not be a prime determinant of higher level of audit quality that as long as professional standards and qualifications are maintained throughout the sector; otherwise small size audit firms may be replaced simply because they are less well known, even though they may well be providing as high or higher audit quality services. Thus, it is unfair to distinguish between large and small audit firms irrespective of the fact that larger audit firms have more resources

Dehkordi and Makarem (2011) also investigated the influence of audit firm size (Big auditors vs. non-Big auditors) and auditor type (governmental vs. private auditors) on audit quality. A sample of 224 firms was observed from the Tehran Stock Exchange (TSE) companies during the period 2002 to 2007. Discretionary accruals (DAC) were employed as representative of audit quality. A modified, cross-sectional version of the Jones' model was applied to measure DAC. Their results showed that the size of non-governmental audit firms does not affect their audit quality. The authors further reported that, since audits are performed in accordance with Generally Accepted Auditing Standards (GAAS) and the auditors are qualified individuals, the audits performed by the Big audit or non-Big audit firms will be equally good. Therefore since audit quality is produced by individual auditors rather than the firms for which they work, there is no significant difference in the reported discretionary accruals of clients audited by the differing size of audit firms.

Using data from reports issued by California State controllers' offices O'Keefe, et al. (1994) examined the degree of to which independent auditors' compliance with generally accepted auditing standards (GAAS) in conduct of audit of school district. O'Keefe, et al. (1994) implemented ordinary least square to run the data and determine the effect of audit fee and industry specialization on compliance with generally accepted auditing standards.

After regression they found that audit fees are significant and negatively related to GAAS compliance while industry specialization is significant and positively related to GAAS compliance. Therefore, their result reveals that industry specialist auditors attempt to protect the reputational capital through increasing compliance with generally accepted auditing standards.

Balsam et.al (2003) examine the effect of industry specialization on the absolute value of discretionary accruals (as measure of audit quality) for client of Big 5(6) auditors during the period from 1991 to 1999 that holds data needed to estimate discretionary accruals (approximately 50,000 observations). Balsam (2003) estimate discretionary accruals using cross-sectional version of Jones (1991) model and use relative national market share revenue to identify industry specialist auditors. Industry specialist are defined to include the largest suppliers in each industry as well as the second and third largest suppliers in industries in which readily observable differences existed between the second and third and between the third and the remaining suppliers as the largest suppliers in each industry if its market share is at least 10% greater than the second largest suppliers.

The author found that industry specialization is significant and negatively associated with absolute discretionary accruals and that this relationship holds for variety of industry specialist definitions. Balsam (2003) also concludes that, clients of industry specialist auditors have lower

absolute unexpected accruals and higher earnings response coefficients, suggesting auditor industry expertise is associated with high quality audits as evidenced by lower accruals, which implies less earnings management.

Based on statistical result the researcher stated that, if an audit firm market share is high it signals auditors have large group of audit clients in the same industry which indicates excessive time and resource investment in that industry. Consequently, auditors' industry specialization allows having to have an extensive industry specific knowledge (e.g. business operation and level of risk) that increases auditor ability to detect errors in financial statements. Therefore, companies audited by industry expertise auditors had low discretionary accrual or high audit quality than those audited by non-industry expertise audit firms.

Similarly, Krishna (2003) uses a sample of 4,422 clients of Big 6 auditors for the period from 1989 to 1998. Krishnan (2003) also estimates absolute discretionary accruals using a cross-sectional version of Jones (1991) model. The author measures auditors' industry concentration based on portfolio shares and relative market shares. For each of these measures ordinary least square (OLS) regression were used with dichotomous and continuous measures of specialization. The result indicates that absolute value of discretionary accruals is lower for firms audited by Big 6 industry specialist auditors than firms audited by Big 6 non specialist auditors. Consistence with Baslam (2003), Krishnan (2003) also reported that clients of industry specialist auditor's report lower absolute unexpected accruals.

During his investigation the researcher observed that, there are fundamental differences in characteristics of business operations and nature and incidence of errors by industry, thus,

auditors with industry specific expertise are better equipped in detecting error relative to non-specialist auditors.

Overall result in the above two researches provide evidence that, industry specialist auditors develop in-depth understanding about firm-specific knowledge that enable them to provide high audit quality services than non-specialist auditors.

Contrary Grambling and Khurana (2010) examined the association between audit firm industry specialization and audit quality in the period 2004 to 2007. They used a sample divided into 63 industry sectors in which auditors with large market share in each industry is industry specialist.

Based on Jones (1991) they determined discretionary accrual as audit quality proxy and these discretionary accruals of industry specialist auditors compared with non-specialist. In this study industry specialization is determined based on the market share approach. Regression results showed that there is no significant longitudinal effect of auditor industry specialization on audit quality. The hypothesis was rejected, and the authors conclude that audit quality of clients of industry specialist audit firms is not significantly different in the upcoming year than those of non-specialist audit firms.

W. Robert Knechel and Ann Vanstraelen (2007) carried out research on the relationship between auditor tenure and audit quality using going concern opinion as audit quality proxy. The authors examine the effect of auditor tenure on audit quality for private companies in Belgium, an environment where the researchers believe auditor tenure is more likely to have a negative effect on audit quality. Researchers used the likelihood of an auditor issuing a going concern opinion as an indicator of audit quality. Using a sample of stressed bankrupt companies, and stressed non-bankrupt companies, the results indicate that auditors do not become less independent over time

nor do they become better at predicting bankruptcy. In balance, the evidence for tenure either increasing or decreasing quality is weak.

Using data obtained from actual audits by multiple Taiwanese offices of four large international audit firms, Hsieh (2011) also examined the existence of a relationship between evidence of reduced audit quality; measured by estimated discretionary accruals, and audit firm tenure with a specific client. Hsieh utilized the Jones' cross sectional model for analysis, and found estimated discretionary accruals to be significantly and negatively associated with the lead audit partner's tenure; in consideration with a specific client.

Based on regression result Hsieh (2011) indicated that first-year audits are more likely to receive lower assessments of audit quality, while higher levels of audit quality are attained in the years immediately thereafter. Additional analyses in the study further suggested, that the lower audit quality observed in first-year clients is not caused by lower audit effort in spite of discounted fees, i.e., audit effort is higher in the first year than subsequent years.

Finally, Hsieh (2011) suggested that since the initial low-balling encourages auditors to accommodate their clients so as to extract future potential quasi-rent, auditor independence may be impaired even in the early part of audit firm tenure.

In line with Hsieh (2011) findings, Siregar, et.al (2012) carried out their research in the Indonesian environment where regulators had made it compulsory to rotate the appointments of public accountants every three (3) years and the appointment of public accounting firms every five (5) years. The purpose of their study was to investigate the effects of auditor rotation and audit tenure of the public accountant and the public accounting firm, on audit quality (before and after the implementation of the mandatory auditor regulation). Their results showed that

mandatory auditor rotation did not increase audit quality; and that shorter audit tenure (both partner and firm level) did not also increase audit quality.

Siregar, et.al (2012) also suggested con of audit rotation i.e. limiting auditor tenure destroys client-specific knowledge (client's system, and internal controls) essential for an effective and efficient audit, thus increasing audit failures at initial years of audit engagements. Extended tenure, however, increases audit quality over time as the auditor gains a better understanding of the client's system, business and industry environment, and internal controls principles applicable in the country where the client is operating its business. Therefore, external auditors' likelihood of detecting material errors and misstatement in the financial reporting of the firm is lower in the startup period which is associated with lower audit quality.

Sharma (2011) examined whether there is a relationship between joint provision of audit and non-audit services and loss of auditors independent for publicly listed New Zealand companies in 2011. Using discretionary accruals as an indicator of audit quality, the regression analysis discovered a significant positive relationship between lower abnormal accruals indicate that earnings quality is higher, which is a proxy of audit quality and the practice whereby external auditors providing non-audit service to its audit client.

Based on empirical analysis the author suggested that, providing NAS to audit clients ensure auditors potentially to have more extensive knowledge about the client's operations, e.g., the auditors know the extent and effectiveness of the information technology used within a company if he or she had a hand in designing the system. The "knowledge spillover" can occur when NAS is provided to audit client which may enhance the auditors' understanding of the client and its risks. Moreover, task-specific knowledge and experience and general business knowledge or

years of experience gained simply through the audit process, incremental knowledge gained from performing non-audit services enables the auditors to perform the audit more efficiently and effectively.

2.3.2. Empirical review on Determinants of Audit Quality in Developing Countries

Frankel et al. (2009) conducted a questionnaire survey on Nigerian medium-sized manufacturing companies over the period of 2001-2007 to examine audit-clients and audit-firm related factors that could impair external audit quality. The joint provision of audit and non-audit services (NAS) to audit client was ranked as top threat factor by users (financial journalists) and prepares (financial directors).

Based on the statistical analysis the study revealed that, the provision of non-audit services (NAS) in general and audit-related services in particular exacerbate the economic bond between the audit firm and its client which may potentially cause the audit firm to be financially reliant on the client.

As a consequence of such an audit firm-client relationship, the auditor is unwilling to challenge a client's management on questionable accounting choices for fear of losing lucrative NAS fees which create incentives for audit firms to compromise their objectivity.

Causholli et al. (2013) examined the impact of joint provision of audit and non-audit services (NAS) by the external audit firm to its audit client and audit quality. Using a sample of 1,008 firm observations of major Malaysian listed industrial share companies for the sample period 2004-2011, the study found either no or negative association between provision major classes of

non-audit services and actual audit quality as measured by discretionary accruals. Hence, the authors have not obtained any pervasive evidence indicating that joint provision of audit and non-audit services erode actual audit quality.

Salleh, Stewart and Manson (2006) examined the effect of board composition and ethnicity on audit quality using a sample of 100 companies under the Industrial Product Sector listed on the Bursa Malaysia Main Board in 2002.

The study used audit fees as a proxy for audit quality and examined the proportion to which independent directors, CEO duality and ethnicity factors are associated with audit fees. They found that the proportion of independent directors was significantly related to audit fees. However, they did not find any evidence of association of CEO duality and ethnicity factors with audit fees. Overall, their results suggested that independent directors encourage the appointment of higher quality auditors to give greater assurance to investors that company financial statements are fairly presented.

Using data from Malaysian listed companies, Abdullah, et al. (2008) investigates effective components of corporate governance in Malaysian listed companies and their relationship with audit quality. A total of 655 companies were selected as the sample; representing the total number of companies across industries in the year 2003. The analysis of logistic regression was used to investigate the relationship between dependent and independent variables. Their results showed that, board independence had a significant positive relationship with audit firm size. On the other hand, CEO duality had a negative relationship; but not significant with audit quality. Their findings posit that, board independence was important factors to the listed companies in improving their decision making processes, and in being more transparent and objective.

The authors also suggested that, non-executive directors encouraged more intensive audits as a complement to their own monitoring role.

Al-Thuneibat, H. et. al (2011) analyzed the effect of the length of the audit firm on opportunistic earnings management by audit client managements. Hence, in this case the credibility of external audit work will be questionable.

In order to test their hypotheses, the authors use the quadratic form approach, with some modifications. The population of the study encompassed all firms whose stock was publicly traded on the Amman Stock Exchange throughout the years (2002-2006). Their statistical analysis of data showed that audit firm tenure affects the audit quality adversely (negatively). Audit quality deteriorated when audit firm tenure was extended as a result of the growth in the magnitude of discretionary accruals. As it was stated in this paper, extended audit firm tenure impair external audit quality since over time personal relationship between the auditor and the client surely and slowly impairs the auditor's judgment over time and developed confidence in the client over time introduces complacency, hinders the auditor's ability to design creative and rigorous audit programs and exercise the required professional skepticism, rendering the auditor less vigilant to subtle anomalies.

Onwuchekwa, et.al (2012) also investigated the relationship between mandatory audit rotation and audit quality. The data used were extracted through the distribution of questionnaires to investors, lecturers, consultants, accountants and auditors in Southern Nigeria. The extracted data was analyzed using percentage analysis, while the specified model was estimated using binary logistic regression technique. They tested the hypothesis that mandatory audit rotation had no

significant relationship on audit quality in Nigeria. Their binary logistic ordered regression revealed a negative relationship between mandatory audit rotation and audit quality.

Adeyemi, S. B. et.al (2012) carried out research in order to investigate the factors affecting audit quality in Nigeria. A Combination of archival method and survey research methods was used. Survey research method was used to gather information from respondents concerning their opinions on certain aspects of audit quality in Nigeria. The targeted respondent groups were shareholders, auditors, analysts, brokers, regulators, management, academicians and others. Randomly selected 430 respondents and forty annual reports were the sample size in the study. The study used both primary and secondary data. The primary data were supplied by 430 respondents across several stakeholders in the fields of financial reporting and auditing. The secondary data were generated from the financial statements of forty annual reports of companies quoted on the Nigerian Stock Exchange. The researchers test their hypothesis and analyzed the data using SPSS, version 17. The tests revealed that, multiple directorships are the most significant in affecting audit quality in Nigeria. However, the study did not find audit firm rotation to be a significant factor for enhancing audit quality in Nigeria.

Similarly Augustine et.al (2013) examined determinants of audit quality in Nigerians business environment. The objective of this study was to analyze the determinants of audit quality in the Nigerian business environment. The study used primary data. Data collection instrument was questionnaires that were constructed using the likert scale. In order to gather the needed information Questionnaires were distributed to randomly selected 100 samples of a cross-section of financial report users; consisting mainly of investors, financial analysts and credit institutions. A regression model was used to analyze the existence of significant relationships between audit quality and the audit firm related characteristics.

The result indicates that Audit firm size, board independence (measured by percentage of non-executive directors) and ownership structure were found to be positively related to audit quality; however, only board independence exhibited a significant relationship with audit quality. Audit tenure exhibited a negative relationship with audit quality which was also not significant. Unlike most of previous studies this study considered both audit firm-specific and company related factors which is the purpose of concurrent researcher and crucial ongoing issue.

Al-Khaddash, H. et.al (2013) carried out research on factors affecting audit quality in the case of Jordan commercial banks. The purpose of the study was to identify the most important factors affecting audit quality in Jordanian Commercial Banks (JCBs). The study implemented quantitative method of research design. The target populations of the study were external auditors who have an experience of auditing Jordan commercial banks and internal auditors and financial officers of JCBs. The research instrument was questionnaires; distributed over a random sample of external auditors who have experience with banks audit and a random sample of internal auditors in Jordanian commercial banks in order to obtain needed data about their opinions about the most important factors affecting audit quality, and the best measures of audit quality. The data transformed into a quantified numbers to assist in examining the study objectives. The researchers implemented a number of statistical techniques and procedures that help to examine research hypotheses. These techniques include reliability and validity test, frequency analysis, independent sample t-test, descriptive statistics, correlation matrix, linear regression, and simple regression. All statistical procedures were estimated using Statistical Package for Social Sciences (SPSS). The final conclusions of the authors' indicate a positive and significant correlation between audit quality and audit efficiency, the reputation of auditing office, auditing fees, the size of audit firm, and the proficiency of auditor.

Using data from population comprises the entire companies quoted on the food and beverages sector of the Nigerian Stock Exchange as at 31st December, 2012; Ilaboya O. J. and Ohiokha F. I., (2014) examined the relationship between audit firm characteristics and audit quality in Nigeria. The study examines the impact of audit firms' characteristics on audit quality. Ilaboya O. J. and Ohiokha F. I., (2014) proxy the dependent variable (audit quality) using the usual dichotomous variable of 1 if the financial statement is audited by big 4 audit firm and 0 if otherwise. Data for the study were sourced from the financial statements of 18 food and beverage companies listed on the Nigerian Stock Exchange market within the period studied (2007-2012). The multivariate regression technique with emphasis on Logit and Probit method was used to estimate the model for the study. The choice of this approach was basically influenced by the dichotomous nature of the study dependent variable and the fact that the data is both time series and cross-sectional. The regression result indicate that there is a positive relationship between board independence and audit quality whereas there is a negative relationship between auditor's independence, audit firm size, audit tenure and audit quality.

Semiou et al. (2010) conducted a study that focused on corporate governance factors and audit quality relationship in Nigeria. Population of the study was made up of companies listed on the floor of the Nigerian Stock Exchange (NSE). A sample of fifty-eight (58) audited financial reports of quoted companies for the period 2007 year-end was used. The dependent variable was audit quality. This variable was dichotomous i.e. size of audit firm (big 4 and non-big 4) was used as proxy for audit quality. Audit quality was set equal to one (1) if the information obtained from companies audited reports show that it is audited by one of the "big 4" audit firms, otherwise zero (0). Independent variables in the study were; board independence, and chief

executive officer (CEO) duality. Information relating to the composition of outside director members of board, and CEO duality were collected from company annual reports.

Independent variables were operated as follows; Board independence was measured through the composition of non-executives in the board of directors in form of percentage. The variable of CEO duality was a dichotomous variable that operated as one (1) if the position of Chairman and Chief Executive Officer is occupied by same person and zero (0) if otherwise.

The analyses were carried out with the aid of the Statistical Package for Social Sciences, (SPSS Version 15.0), and the data collected were analyzed using both descriptive and inferential statistics. The descriptive method described information relating to audit firm (categorized into big 4 and non-big 4) and CEO duality.

Regression analysis in the study suggested that, board independence and chief executive officers duality have no significant correlation with audit quality although there is a positive correlation of board independence but negative for chief executive officers duality with audit quality. Velnampy, T. et al. (2014) analyzed whether the corporate governance attributes such as board leadership structure, and board independence have significant impact on audit quality of manufacturing companies listed on Colombo Stock Exchange, Sri Lanka during 2011 to 2013.

This study focuses only the manufacturing sector out of 20 business sectors listed on CSE as of 8th July 2013 and took takes 32 manufacturing companies listed in Sri Lanka out of 36 as sample. The data was obtained from annual reports of selected companies for the reporting year ended 2011, 2012, and 2013 from the link available in the website of CSE.

Binary logistic regression results revealed that, Board leadership structure which has categorized into separate and combined structure and board independence has significant relationship with

audit quality. The significant relationship between audit quality and board leadership structure was negative, but positive with board independence.

According to this study significant negative relationship of chief executive officers duality and audit quality is due to conflict of interest. That means chief executive officers duality refers to non-separation of roles between chief Executive officer and the chairman of the board and when that one person is in charge of both tasks (decision management and decision control functions), favorable decisions are reached faster provided that person is well aware of the decisions needed to improve the performance of the firm. In this case one individual possesses more power and authority which in turn leads to misbehavior of managers. Therefore, if chief executive officer of a company is also chairman for board of directors he/she participate in external auditors appointment and imposes limits on the supervision by the auditors; restricting the scope of the auditors' investigations and scrutiny for his/her advantage. This affects audit quality negatively.

2.3.3. Empirical Review on Determinants of Audit Quality in Ethiopia

Even though, audit quality determinants issue has a critical research area in developed economy, like other emerging economy, research in the area factors that enhance or impair auditing quality in Ethiopia is still under investigated and only few countable studies are conducted in Ethiopia. As per the researcher's access and knowledge, the researchers conducted on determinants of auditing quality in Ethiopian case are: Amsalu Gelaneh (2011), Adane Wudu (2014) and Bethitina Leilina (2015).

Amsalu Gelaneh (2011) examined the impact of extended audit tenure on auditors' independence and audit quality in Addis Ababa. The researcher considered impact of both extended and short audit tenure on audit quality. In order to conveniently achieve the study objective primary data

were gathered from sample of six audit firms which includes a total of 50 auditors in Addis Ababa through questionnaire. The researcher also used stratified random sampling technique to select samples. The collected data were analyzed using a quantitative and qualitative approach with the help of SPSS.

The analysis result revealed that, extended audit tenure negatively affect the audit quality by impairing the auditor independence, due to increased familiarity, closeness and loyalty to the client, which in turn would impair the auditor's objectivity and professional judgments.

In other words, long audit tenure greatly reduces the auditors' independence and audit quality when it is compared with the short audit tenure. However limitation of this study was it considered only one firm-specific factor, i.e. audit tenure. This study fills this gap through inclusion of more variables.

On the other hand, Adane Wudu (2014) examined roles and responsibilities of external auditors in fraud detection in Ethiopia including the factors that influence external auditors' responsibility and expert performance in detecting fraud. The study adopts a mixed methods research approach by combining data gathering instruments of research questions, in-depth interviews and document analysis. The necessary data were gathered from 15 selected samples of external auditors. The questionnaire data were analyzed using descriptive statistics, correlations, and logistic regression analysis and data from interview and document reviews were interpreted qualitatively. The findings of the study show that, auditors are responsible for detection and uncovering fraud, and are legally liable for subsequently discovered misstatement in audited financial statements.

Auditors economic dependency, too much trust placed on the auditees, management and employees, auditor not giving enough emphasis to audit quality, management not having fraud policy; and, failure to focus on high-risk fraud areas, fraudsters collusion, absence of clear interpretation of tax law /proclamation, absence of well-organized professional body in Ethiopia were listed among the most important challenges of auditors fail to detect fraud. This implies that quality of audit service in Ethiopia was under question mark.

The study also finds that the five variables which are certification, practical experience, training, audit fee, and independence significantly influence the auditor's expert performance to fraud detection.

Furthermore, Bethitina Leilina (2015) investigated audit quality determinants in terms of manufacturing share companies in Addis Ababa. The researcher considered firm specific attributes (audit firm size, auditors' independence, auditors' industry specification, auditors' certification, audit firm tenure, and joint provision of audit and non-audit services) as explanatory variables. In the study discretionary accrual was audit quality proxy.

To achieve the desired objective the study adopted quantitative method of research approaches to test a series research hypothesis. Specifically, the study used documentary analysis of companies' audited financial statements and personal inquiry with audit directors/officials of audit firms. Then companies were selected based on simple random sampling method to avoid biases and represent firms within manufacturing companies. Consequently, the study selected a sample of twelve (12) companies for the period of five years (2009-2013) with the total of 60 observations.

The results of panel least square regression analysis showed that audit firm industry specialization and certified audit professionals ratio have statistically significant and positive relationship with manufacturing share companies' external audit quality. On the other hand, the joint provision of audit and non-audit service has a negative and statistically significant relationship with manufacturing share companies' external audit quality. However, the relationship for audit firm size and audit firm tenure was found to be statistically insignificant.

2.4. Conclusion and Research Gap

Audit quality has been the focus of theoretical and empirical auditing research for the last several years.

Even though a plenty of studies investigated the determinants of audit quality in different countries especially in the western; there is a lack of empirical evidence from the developing countries context like Ethiopia. Only few scanty studies had been conducted in the area from developing countries as far as the researcher knowledge is concerned e.g. Nigeria, Malaysia, and Jordan.

Again, prior researches have documented inconsistent results (i.e. positive, negative and no relationship) on the evidence of the linkage between audit quality and its determinants. Empirical studies revolving around the relationship between audit quality determinants considered in this study (audit firm size, audit firm industry specialization, audit firm tenure, auditors certification and professionalization joint provision of audit and non audit services, board leadership structure, and size of independent non-executive board members) and audit quality seem inconclusive, i.e., some studies found positive association, the others found negative association, while some other found no relationship.

For example, DeAngelo 1981; Craswell et al. 1995; and Becker et al. 1998 found positive relationship between audit quality and audit firm size whereas Louis and Robinson 2005; Dehkordi and Makarem 2011 found that audit firm size does not have significant influence on audit quality. For audit firm industry specialization and audit quality linkage O'Keefe, et al. 1994; Balsam et.al 2003; and Krishna 2003; found significant positive relationship between audit quality and audit firm industry specialization but Grambling and Khurana 2010; found that industry specialization has no effect on audit quality. W. Robert Knechel and Ann Vanstraelen 2007; Hsieh 2011; Siregar, et.al 2012; found significant positive relationship between extended audit firm tenure whereas, Al-Thuneibat, et al. 2011; found significant negative relationship between extended audit tenure and audit quality. Similarly as discussed in literature part different researchers found inconsistency results for the linkage between remaining independent variables considered in this study and dependent variable.

Moreover like other developing economy, research conducted in Ethiopia in the area of determinants of audit quality generally focused on the relationship between audit quality and audit firm-specific determinants. Even if client related factors specifically corporate governance attributes i.e. board leadership structure, and size of independent non-executive board members have significant effect on audit quality, it is less focused in Ethiopian audit market. Therefore, this empirical study is designed to address these short coming and, further, to find out client specific determinants of audit quality by taking manufacturing share companies as a case.

Chapter Three: Research Methodology

3. Research Design and Methods

Throughout previous chapter theoretical perspectives and work of many researchers help to have in-depth understand about research problem were described. This chapter focused on description of research design and method employed in the study. Detail description of research approach, sampling design, sources of data and data collection instruments, dependent and independent variable descriptions, model specification and data analysis techniques were the points presented in this chapter.

3.1. Research Approach

Research design is plan and structure that specifies appropriate methods and procedures for data collection and analysis. The overall objective of this study was to examine determinant factors of external audit quality in manufacturing share companies that have significant impact/influence on audit quality in prior studies in the literature. This implies that, problem of the study seeks to identify relationship between audit quality and factors that influence audit quality.

The problem that is going to be investigated in the study is used as a base for determining the research approach. According to Creswell (2003) if the problem is identifying factors that influence an outcome, the utility of an intervention or understanding the best predictors in outcomes, a quantitative research design is the best approach. Creswell (2003) defined quantitative approach as a means for testing objectives and theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures.

According to Yesgat (2009) the quantitative research approach translated the research problem in to specific variables and hypothesis to be tested (Yesgat, 2009, p.70). Thus, it enables the researcher to get a deep understanding about the area being investigated. In investigating the determinants of audit quality in large manufacturing share companies, the researcher tested the relationship between audit quality, which is a dependent variable, and seven determinant factors. Yesgat (2009) further stated that, quantitative research approaches tests the theoretically established relationship between variables using sample data with the intention of statistically generalizing for the population under investigation. Thus, this study conducted to test which determinant can best explain the variation on audit quality of the companies by taking large manufacturing share companies as a case. Therefore, based on the nature of the study the researcher adopted quantitative research approach to understand and analyze the possible determinants of external audit quality in manufacturing share companies.

3.2. Sampling Design

As noted by Cohen et al. (2005) the questions of sampling arise directly out of the issue of defining the population on which the researches focused on. Further, they stated that factors such as expense, time and accessibility frequently prevent researchers from gaining information from the whole population. Therefore, they often need to be able to obtain data from a smaller group or subset of the total population in such a way that the knowledge gained is representative of the total population under study (Cohen et al. 2005 P.92). The target population of the study is manufacturing share companies in Ethiopia.

Ethiopia's manufacturing sector is among the key productive sectors of the economy identified under gross and transformation plan (GTP I) which can spur economic growth and development

because of its immense potential for wealth creation, employment generation and poverty alleviation (MoFED 2010). As per Ministry of finance and economic development (MoFED 2014) annual progress report the manufacturing sector contribution to the gross domestic product (GDP) in 2012/2013 was 4.8% and increased to 14% in 2013/2014. Manufacturing companies in Ethiopia increase from time to time both in numbers and share of contribution to gross domestic products.

Despite this fact based on survey analysis Addis Ababa Chamber of Commerce and Sectoral Association (AACCSA) conclude that, limited access to finance to fund manufacturing projects and shortage of foreign currency to import raw material and intermediary goods are the main problems of the manufacturing firms in Ethiopia (AACCSA, 2015).

As per the record held by Ethiopian Revenue and Custom Authority (2015) there were 34 large tax payer manufacturing share companies with audited financial statements in Addis Ababa. Firms with at least six consecutive years (2010-2015) of audited balance sheet and income statement were included in the researcher analysis; to allow the researcher to obtain sufficient data for calculating the representative data from each firm.

In addition, the researcher used simple random sampling technique to give equal chance to each manufacturing share companies and the observations can be used for inferential purpose. Therefore, out of the 34 manufacturing share companies the researcher randomly selected 18 manufacturing companies as sample size.

3.3. Sources of Data and Data Collection Instruments

To meet the objectives of this study, the researcher highly relayed on secondary source of data. A structured record review was made to collect a panel data, which comprises both time series and cross-sectional elements, i.e., it embodies information across both time and space. Audited annual financial reports of 18 large manufacturing share companies, covering the period from 2010 to 2015 were collected from the sample of manufacturing share companies. Regarding the use of panel data, Paula & Zelia (2007 P.552) mentioned two basic benefits. The first benefit of working with panel data is, understanding the development overtime of the relationship between explained variables and explanatory variables. The other benefit of using panel data is allowing the researcher to measure the difference between companies which are not observable and these differences having the name of individual effect. Furthermore, Shah& Khan (2007) noted that panel data usually provides the researcher a large number of data points, increasing the degree of freedom and reducing the co linearity among explanatory variables and therefore, it improves the efficiency of econometric estimates.

Audited financial statements of sampled companies were collected from each sampled large tax payer manufacturing share companies and used to provide information relevant for estimation of discretionary accrual i.e. proxy of earning management which in turn proxy of audit quality level and to identify for how many years they are audited by the same external auditor. Data for audit firm size was collected from Office of Federal Auditor General (OFAG). Relevant information related to audit firm industry specialization, certified professional auditors percentage and joint provision of both audit and non audit services gathered from each audit firms engaged in audit

services of manufacturing share companies during the study period using personal inquiry guiding questions as data collection instrument. Similarly data for CEO duality and size of independent non-executive board members collected from each manufacturing company's board performance report.

3.4. Variables Descriptions and Model Specification

3.4.1. Description of Dependent Variable

The study constitutes both explained and explanatory variables. In the study external audit quality is dependent variable, measured by discretionary accrual as audit quality proxy. This subsection of the thesis evaluates external audit quality proxy that employed in the study. To do so the researcher takes into account the most commonly used external audit quality proxies those measures the actual audit quality. According to Mark DeFondet,al.(2013) the most commonly used actual audit quality proxies are accounting restatement, going concern audit opinions and earning quality characteristics. Understanding these proxies is important because most of the literatures the researcher reviewed employ external audit quality proxy as the dependent variable and while, the literature uses a large number of proxies to measure external audit quality, there is no consensus on which measures are best, and little systematic direction on the desirability or comparability of one audit quality proxy versus another.

Accounting restatements was corrections of material misstatements in the client's previously issued financial statements. Restatements was very direct measures of audit quality because they indicate that the auditor issued an unqualified opinion on materially misstated financial statements, and the audit opinion is the auditor's full responsibility and directly under his or her control. They are also generally viewed to be egregious audit failures since the reported financial

statements contain a material misstatement. These proxies attempt to measure actual audit quality using an output of the audit process (Mark DeFondet, al. 2013).

However such an approach has been criticized in that while it may reliably indicate “black and white” audit failures, it does not capture subtle variations in audit quality that rise to the level of a material misstatement (Mark DeFondet, al. 2013). This means that the absence of a restatement is not necessarily an indicator of high audit quality, and limits the inferences that can be drawn from these measures. In addition, the absence of an accounting restatement does not necessarily suggest high quality, for at least two reasons. One is that if management prepares financial statements that are free of material errors, even a low quality audit will not result in a restatement. Another is that material misstatements that result from low-quality audits may simply go undetected. Another important limitation of restatements is that it is relatively rare event.

The other commonly used audit quality proxy is audit opinion. Going concern modified audit opinions communicate the auditor’s evaluation of whether there is substantial doubt about the client's ability to continue as a going concern.

There are studies which have considered external audit quality by reference to the relation between a going concern audit report and client business failure include those of: Lennox (1999) and (Francis 2011). These studies sought incorrect going concern opinions definitively as an appropriate indicator for low audit quality. However, the going concern assessment is very challenging, as much more facts than negative trends in operating results, delay in payments, or denial of trade credit from suppliers have to be considered. It is more about business forecasting and assumption making than reviewing facts derived from historical financial reporting.

Furthermore, inappropriate going concern opinions are only a small portion of all occurrences of low audit quality. The auditor's failure in general is not detecting material misstatements. A missing or a wrong going concern opinion is definitely material. However numerous different types of material misstatements may occur, which are not connected to a going concern opinion, such as over or undervaluation of assets and debts in a good financial situation.

Based on the frequent use of indirect measures of audit quality in audit quality studies and based on the nature of the study, in this study it is decided to employ a measure of external audit quality by reference to the extent of earnings management as the use of this measure to capture audit quality is motivated by the assumption that high quality auditing constrains opportunistic earnings management of the financial disclosures in annual reports.

Earnings management measures have several advantages that make them especially attractive candidates for capturing external audit quality. One is that the ultimate goal of auditing is to improve financial reporting quality, which earnings management measures are specifically designed to capture. Second, earnings management measure is expected to detect ~~within~~ GAAP earnings manipulation, for example to meet earnings targets. This is important because within GAAP, manipulation is likely to represent the ~~qualitative~~ aspects of management's accounting choices that reflect ~~potential~~ bias in management's judgments that auditing standards require auditors to evaluate (IAASB 2011).

According to Mark DeFond, and Jieying Zhang (2013) third, advantage of the earnings management measures is that their continuous nature captures variations in audit quality even in studies that are restricted to relatively small samples, and within the subset of clients who do not

have egregiously poor external audit quality. High quality audits should be more likely to successfully detect and prevent earnings management.

Therefore, higher levels of audit quality should be associated with lower levels of earnings management. Earnings management propensity is invisible and it can be considered successful only if it goes undetected. This makes earnings management measurement a challenging task for researchers. It is hard for investors to detect earnings management from looking at single cases but detection is less difficult if this phenomenon is studied using a large set of data to uncover systematic patterns.

Hence, discretionary (abnormal) accruals are used as an empirical indicator of earnings management. Earnings management disclosure is measured by an index based on the extent of discretionary (abnormal) unexpected accruals as the best proxy in order to provide evidence about the relationship between external audit quality and earnings management in manufacturing share companies.

The main advantages of using discretionary accruals to measure earnings management is that it can be calculated based on the information in the annual report. In addition, this type of research is replicable. Therefore, detail description and estimation model of discretionary accrual (proxy of external audit quality) was presented below.

3.4.1.1. Discretionary/Abnormal Accruals Model

In the literature of audit quality the proxy discretionary accruals is one of the most common proxies for earnings quality as well as audit quality. Jimmy Bing, et.al. (2014) argued that since financial statements are products from a negotiation process of managers and auditors the quality of earnings information in the financial report is able to reflect the audit quality. In other words,

earnings quality is implicitly regarded as a measurement indicator for audit quality itself. Once talking about earnings quality, people would think of discretionary accruals immediately.

When preparing financial statements, the economic life of the business is divided into time periods. This accounting period concept requires that revenues and expenses be reported in the proper period. To determine the proper period, accountants use generally accepted accounting principles (GAAP). The use of the accrual basis of accounting is required by GAAP (Carl S. Warren, James M. Reeve & Jonathan E. Duchac, 2009, pp.100). The general idea of accrual accounting is that the revenues are recognized when they are earned and expenses are recognized as they occurred.

Accruals can be divided into the categories as non-discretionary (normal) and discretionary (abnormal) accruals.

Ronen and Yaari (2008) describes non-discretionary accruals as accruals that arise from transactions made in the current period that are normal for the firm given its performance level and business strategy, industry conventions, macro-economic events, and other economic factors; where the values are fixed.

Discretionary accrual on the other hand refers to accruals that arise from transactions made or accounting treatments chosen in order to manage earnings. Hence, discretionary accruals are the proportion of accruals, which cannot reflect fundamental economic performance.

Thus, for supply studies, the most suggested and used proxy in audit quality research studies to capture earnings management which poses a threat to financial reporting quality and thus external audit quality as well is the statistical estimation of discretionary (abnormal) accruals

which is one of the outcome related to audit quality in financial statements for the following reasons.

First, company managers have considerable discretion in estimating accrual. This discretion allows them flexibility in using accrual for income-increasing or income-decreasing earnings management, or for smoothing earnings.

Second, discretionary accruals are also by far the largest and most important accrual for companies, thus affording company managers wide latitude in its use (Chung and Kallapur 2003; Francis and Dechow 2008).

Huang et al. (2008) noted that earnings management can occur because accrual basis income depends on the use of estimates made in the financial reporting process. For example, current earnings could be boosted by underestimating bad debts on credit sales or expected warranty costs on the goods sold. Higher levels of accruals that are not associated with the firm's fundamental earnings process are assumed to reduce the quality of earnings.

Therefore, level of discretionary (abnormal) accruals indicates earnings quality level and these variables have negative relationship.

According to Jimmy Bing et.al (2014), among all the research papers using discretionary accruals as the proxy for audit quality, there are three main types of models: Jones (1991) Model, Modified Jones Model, and performance adjustment Model based on Jones and Modified Jones. The study by Dechow et al. (1995) finds that a modified Jones model provides the most powerful test of earnings management. It is similar as the original Jones model (1991), but in a modified Jones model, changes in sales are adjusted for the change in receivables.

The adjustment of change in sales to change in receivables, remove the effects of managerial discretion over credit sales from non-discretionary accruals, thereby improving the model's power to detect revenue-based earnings manipulation.

In the modified Jones model total accruals were computed using cash flow approach and traditional balance sheet approach. Among these two approaches the majority of prior studies used traditional balance sheet approach and one of the reasons for the popularity of this approach may be the availability of balance sheet statement data compared to cash flow statement data, and hence, to measure discretionary accruals. The current study employed the balance sheet approach.

Under the balance sheet approach, the formula of the modified Jones model to measure the total accruals (TACC) is as follows:

$$TACC_{i,t} = (\Delta CA_{i,t} / TA_{i,t-1}) - (\Delta CASH_{i,t} / TA_{i,t-1}) - (\Delta CLI_{i,t} / TA_{i,t-1}) + (\Delta STDEBT_{i,t} / TA_{i,t-1}) - (DEPR_{i,t} / TA_{i,t-1}) + \varepsilon_{i,t}$$

Where:

- $TACC_{i,t}$ = Total Accruals for firm i in time period t;
- $TA_{i,t-1}$ = Total Assets for firm i at the end of year t-1;
- $\Delta CA_{i,t}$ = Change Current Assets for firm i from time period t-1 to t;
- $\Delta CASH_{i,t}$ = Change Cash Balance for firm i from time period t-1 to t;
- $\Delta CLI_{i,t}$ = Change Current Liabilities for firm i from time period t-1 to t;
- $\Delta STDEBT_{i,t}$ = Change in Short-Term Debt for firm i from time period t-1 to t;

- $DEPR_{i,t}$ = Depreciation and Amortization Expense for firm i from time period $t-1$ to t ;
and
- $\varepsilon_{i,t}$ = (Residuals from the model) or error term.

In turn, Non-discretionary accruals ($NDACC_{i,t}$) for firm i in year t are:

$$NDACC_{i,t} = 1/TA_{i,t-1} + (\Delta REV_{i,t} - \Delta REC_{i,t}) / TA_{i,t-1} + PPE_{i,t} / TA_{i,t-1}$$

Where:

- $NDACC_{i,t}$ = Non-Discretionary Accruals for firm i in year t ;
- $TA_{i,t-1}$ = Total Assets for firm i at the end of year $t-1$;
- $\Delta REV_{i,t}$ = Change in Revenue for firm i in year t divided by Total Assets for firm i at the end of year $t-1$;
- $\Delta REC_{i,t}$ = Change in Net Receivable for firm i in year t divided by Total Assets for firm i at the end of year $t-1$;
- $PPE_{i,t}$ = gross value of property Plant and Equipment for firm i in year t divided by Total Assets for firm i at the end of year $t-1$, and

The subscripts " i " and " t " refer to firm i and year t

Finally, discretionary accruals are estimated as:

$$DACC_{i,t} = TACC_{i,t} - NDACC_{i,t}$$

Where: $DACC_{i,t}$ = Discretionary Accruals for firm i in year t

3.4.2. Descriptions of Independent Variables and their Measurements

Under this subsection a brief descriptions of the study's explanatory variables are presented. These explanatory variables are; audit firm size, audit firm industry specialization, audit firm tenure, auditors' certification and professionalization, joint provision of audit and non-audit services size of independence non-executive board members and board leadership structure. Therefore, the respective explanation of these variables and hypothesis formulation is the aim of this particular part of the thesis.

3.4.2.1. Audit Firm Size

Auditor size, usually measured as Big N membership, is used to proxy for audit quality because large auditors are expected to have stronger incentives and higher competencies to provide high audit quality (DeAngelo, 1981). The literature on audit firm size and external audit quality relation has clearly highlighted that whilst different samples and methods have been used by different researchers, there is a positive relationship between audit firm size and external audit quality.

Moreover, as larger audit firms have reputations to preserve, they are careful to report deficiencies. And many studies have found evidence to support the notion that audit firm size has an impact on audit quality, with audit quality improving as the size of the audit firm increases (DeAngelo 1981; Craswell et al. 1995; Augustine et.al 2013; Al-Khaddash, H. et.al 2013; Ohiokha Friday Izien 2014). Therefore, a positive relationship between audit firm size and external audit quality is expected in relation to the study. Based on this argument the following testable hypothesis is formulated;

H_1 : there is significant positive relationship between audit firm sizes audit quality in manufacturing share companies.

Audit firm size proxy in the study was based on the rate given by OFAG to classify audit firms as big or small firms. This variable is dichotomous variable and assigns 1 if big and 0 otherwise.

3.4.2.2. Industry specialization of audit firms

Balsam et al. (2003) proposes that industry specialist auditors provide higher quality audits than non-specialist auditors. From their hypothesis test result, authors stated that industry specialist auditors provide higher audit quality and this result is robust to several proxies for audit quality.

According to Balsam et al. (2003) the quality of audit provided by Big N auditors is associated more with their status as industry specialists than with status as Big N auditors. These results imply that audit quality provided to client of the same Big N varies depending on whether the Big N firm is specialist in client's particular industry.

Ferguson, et al. (2003) stated that fee premia are realized in Australia by auditors that are industry specialist; identified as auditors with largest market share after they examined whether audit quality is associated with auditors industry specialization. Ferguson, et al. (2003) also posits that auditors with largest market share are industry specialist and developing industry-specific audit knowledge by investing more to provide improved external audit quality.

In line to the above notion and empirical evidences the second hypothesis of this paper is:

H_2 : there is significant positive relationship between audit quality and auditors industry specialization in manufacturing share companies.

Likewise, Ferguson, et al. (2003) auditors' industry specialization measured based on market share of audit firms. Therefore, in this study auditing firm classified as industry specialist if its market share in manufacturing share companies is greater than or equal to 20% of its total audit client.

3.4.2.3. Audit Firm Tenure

The term Audit firm tenure is defined as audit firm's total duration to hold their client. The impact of audit firm tenure on external audit quality has been discussed in depth and controversial conclusions were achieved.

According to Siregar, et.al (2012) limiting auditor tenure destroys client-specific knowledge (client's system, business and industry environment, and internal controls and principles applicable in the country where the client is operating its business) essential for an effective and efficient audit, thus increasing audit failures at initial years of audit engagements. Extended tenure, however, increases audit quality over time as the auditor gains a better understanding of the client's system, business and industry environment, and internal controls principles applicable in the country where the client is operating its business.

With the exception of Al-Thuneibat, H. et al. (2011) most of prior studies (e.g. Onwuchekwa, et.al 2012; Hsieh, 2011; W. Robert Knechel and Ann Vanstraelen 2007) found positive relationship between extended audit tenure (long audit tenure in this study) and audit quality.

When financial statements of a company has been audited by the same audit firm for three years, it is defined as short audit tenure; but, if the same audit firm audited a company's financial statement for four years and above it is called long audit tenure (Iskandar et al. 2010).Based on the above rational the third testable hypothesis is formulated as follows;

H₃: there is significant negative relationship between short term audit firm tenure and external audit quality in manufacturing share companies.

3.4.2.4. Certified Professional Auditors Ratio

The term certified professional auditors refer to those auditors who have professional certificate from well-known certifying organization. Certifying organizations in this term stands for those professionalization organization, institution, and/ or associations which their primary objective is to provide professionally qualified manpower in accounting and auditing practices. These institutions establish a reliable, standardizing testing instrument that adequately assess the levels of specialized competency necessary to practice proper financial statement examination.

Daniels and Booker (2009) said that, Professional certification obtained from a formal education process demonstrates an individual auditor's minimal level of competency.

This means professional certification reflects possession of the auditor to the structure of developed knowledge includes general knowledge, which is the facts, theories and definitions, and special knowledge related to the completion of some tasks, and is correlated to a large extent with the scope of the efficiency of memory and the personal attributes and beliefs affect the test and modernize the knowledge infrastructure, and the pace of increase in building good attitudes and having prior knowledge about fraud and this well organized and certified knowledge into memory quickly and easily call for the knowledge on need. The lower the ratio of the number of certified audit professionals to the estimated number of employees in audit services, the lower the auditors' ability to detect fraud and errors in clients' financial statement. Therefore, the fourth testable hypothesis in this thesis is stated as;

H₄: there is significant positive relationship between certified professional auditors percentage ratio and audit quality in manufacturing share companies.

According to (Mihret et al. 2010) Ethiopian accounting and auditing practice is highly influenced by the Britain accounting and auditing system because of the contribution of the British expert in introducing public accounting services in the country and the dominance of practitioners with British based qualification certifications(e.g. ACCA). Hence, the leading professional qualification is Association of Chartered Certified Accountants (ACCA), the ratio of total number of ACCA certified audit professionals to total number of employees in audit service per audit firm is used as a proxy for certified audit professional's ratio.

3.4.2.5. Provision of both audit and non-audit services

Joint provision of audit and non-audit services and its impact on external audit quality is most important debatable topic for the last many decades. In addition to audit services Auditors worldwide provide tax consultancy, system consultancy, management advice, international business advice, human resource management, financial and investment consultancies as non-audit services for their clients.

An extensive, but inconclusive prior researches regarding to potential effect of aforementioned non-audit and audit services on audit quality exists in audit quality literatures.

Sharma (2011) stated that, “knowledge spillover” can occur when NAS is provided to audit client which may enhance the auditors' understanding of the client and its risks. If investors believe this knowledge spillover exists, the auditor who performs NAS might be perceived to be more knowledgeable and competent regarding their client, and more likely to detect an error in the system or the output (financial information).

On oppose of Sharma 2011; Frankel et al. (2009) statistical analysis revealed that, the provision of non-audit services (NAS) in general and audit-related services in particular exacerbate the economic bond between the audit firm and its client which may potentially cause the audit firm to be financially reliant on the client.

As a consequence of such an audit firm-client relationship, the auditor is unwilling to challenge a client's management on questionable accounting choices for fear of losing lucrative NAS fees which create incentives for audit firms to compromise their objectivity, e.g., waive audit adjustments, in order to retain audit clients and this create more opportunities to conduct earning management.

However, using meta-analysis procedures, Habib (2012) statistically aggregated results across 45 studies, correcting for statistical artifacts like sampling and measurement error. He found that the level of client-specific non-audit fees results in lower financial reporting quality. A decomposition of the financial reporting quality proxies reveal that earnings management is positively related to non-audit fees while the propensity to issue a qualified opinion is negatively associated with non-audit service provision, indicating that non-audit services impair independence in fact. This shows despite inconsistence result of relationship between joint provision of audit and non-audit services with audit quality level most of prior results indicate negative relationship. Therefore, the fifth testable hypothesis is formulated as follow:

H₅: there is significant negative relationship between provision of non-audit services and audit quality in manufacturing share companies.

Based on many previous studies provision of non-audit services was measured as percentage of non-audit fee from the total audit fee.

3.4.2.6. Size of Non-executive Board Members

The linkage between the board and the quality of audit services performed may be formal or informal. In terms of formal linkage, the board of directors typically collaborates with management in selecting the external auditor, often subject to shareholder ratification. Since the auditor is to look to the board as its client, it is reasonable to expect the board to review the overall planned audit scope and proposed audit fee (Blue Ribbon Committee 1999; Public Oversight Board 1994). The board also may influence audit quality through informal means. The board's commitment to vigilant oversight may signal to management and the auditor that the expectations placed on the audit firm are very high. If the auditor understands that the client (that is, the board) is particularly of high quality and demanding, the auditor may perform a higher-quality audit so as not to disappoint the client and jeopardize the relationship (Semiu et al. 2010). High quality board of directors and demanding high quality audit service is mostly, influenced by board independence, i.e. independent directors encourage the appointment of higher quality auditors to give greater assurance to investors that company financial statements are fairly presented (Salleh, Stewart and Manson, 2006).

A number of studies have reported a positive link between higher proportion of non-executive directors on the board and audit quality (Salleh, Stewart and Manson 2006; Abdullah, et al. 2008; Augustine et.al 2013). Augustine et.al (2013) indicated that Audit firm size, and size of non-executive board members were found to be positively related to audit quality; however, only size of non-executive board of directors exhibited a significant relationship with audit quality. Abdullah, et al. (2008) argues that since non-executive directors do not play a direct role in the management of the company, they encouraged more intensive audits as a complement to their own monitoring and improve audit quality. Salleh, Stewart and Manson (2006) find significant

positive relation between audit quality and the presence of higher proportion of outside directors in Malaysia. Thus, positive relationship between board high proportion of independent non-executive directors and audit quality was predicted.

Following Semiu et al. 2010; Board independence in this thesis was measured through the composition of in non-executives in the board of directors in form of percentage.

The sixth testable hypothesis of this thesis was formulated as follows based on the rationale stated above.

H_6 : there is significant positive relationship between number of non-executive directors and audit quality in manufacturing share companies.

3.4.2.7. Board Leadership Structure

The CEO duality refers to non-separation of roles between Chief Executive Officer (CEO) and the Chairman of the board. In the normal situation, boards with CEO duality are perceived ineffective because a conflict of interest may arise.

When the CEO also serves the dual position of chairperson of the board (i.e., CEO duality exists), this signifies the concentration of decision making power and hampers board independence and reduce the ability of the board to execute its oversight roles. Jensen (1993) advocates the separation of the positions of the CEO and chairperson to avoid conflicts of interests.

According to Semiu et al. (2010) if, chief executive officer of a company is also chairman for board of directors he/she imposes limits on the supervision by the auditors; restricting the scope of the auditors' investigations and scrutiny for his/her advantage and demands low audit quality.

A number of studies document that CEO duality impair audit quality (Abdullah, et al. 2008; Semiu et al. 2010; Velnampy, T. et al. 2014). Abdullah, et al. (2008) in Malaysia investigate CEO duality and audit quality relationship and found significant negative relationship between the variables. A study in Sri Lanka during by Velnampy, T. et al. (2014) also showed significant negative relationship of audit quality and CEO duality. However, Salleh, Stewart and Manson (2006) in Malaysia did not found any evidence of association of CEO duality with audit fees (i.e. audit fees as a proxy of audit quality).

Similarly with Semiu et al. (2010) the variable of CEO duality in this study, is a dichotomous variable that operated as one (1) if the position of Chairman and Chief Executive Officer is occupied by same person and zero (0) if otherwise.

Based on the above rationale, the last testable hypothesis is formulated as follows:

H₇: there is significant negative relationship between CEO duality and audit quality in manufacturing share companies.

3.5. Regression Model Specification

Since, all necessary variables are defined it is possible and important to set up the regression model to test the hypothesis. This study adopts the most commonly used external audit quality proxy, i.e. discretionary accrual to test relationship of dependent and independent relationship.

After discretionary accruals have been estimated using the Modified Jones Model, the following model is used to test the hypothesis:

$$AUQLT_{i,t} = \beta_0 + \beta_1[AFSi,t] + \beta_2[AFISi,t] + \beta_3[AFTi,t] + \beta_4[CAPRi,t] + \beta_5[PROVNOSi,t] + \beta_6[SINED_{i,t}] + \beta_7[CEOSHIP_{i,t}] + \epsilon_{i,t}$$

Where:

$AUQLT_{i,t}$ = audit quality for sample firm i at the end of year t

$AFSi,t$ = audit firm size for sample firm i at the end of year t

$AFIS_{i,t}$ = audit firms industry specialization for sample firm i at the end of year t

$AFTi,t$ = audit firm tenure for sample firm i at the end of year t

$CAPRi,t$ = Certified audit professionals in relation to the total number of employees in audit services for sample firm i at the end of year t

$PROVNOS_{i,t}$ = joint provision of audit services and non-audit services

$SINED_{i,t}$ = size of independent non-executive board members for sample firm i at the end of year t

$CEOSHIP_{i,t}$ = Chief executive officers duality for sample firm i at the end of year t

β_0 = Constant of the regression

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ = Regression coefficients

$\epsilon_{i,t}$, Regression Residual

3.6. Data Analysis and Presentation

After the collection of data the researcher implemented a number of statistical techniques and procedures that help to examine research hypotheses. These techniques include descriptive statistics to describe the nature of variables used in the study, correlation analysis to see the relationship between dependent variable and independent variables before detail regression analysis, test validity of classical linear regression model assumptions, reliability and validity test to determine appropriate regression model and linear regression analysis to see the significant relationship of dependent variable and identified independent variables, and. All statistical procedures were estimated using Eviews 8 software package.

Chapter Four: Data Analysis and Discussion of Results

In the preceding chapters, relevant literatures helped to understand research problem under consideration and to develop appropriate research methodology were reviewed and presented.

This chapter of the study focused on the analysis, and discussion of findings. Relevant data for dependent and independent variables were collected from both sampled manufacturing share companies and their respective external auditors for the period from 2010 to 2015. The collected data were analyzed using various statistical tools. Basically regression analysis was conducted using Eview 8 and inferences were taken from it. In order to the reliability of the study the researcher conducted Hausmann test to know whether the model is fixed or random effect and diagnostic test to test basic linear regression assumptions. Descriptive statistics and regression results from the Eview output were presented in a tabular form, from where detailed analysis and discussion of the result was given.

4.1. Descriptive Statistics

Descriptive statistics summary of the dependent and independent variables included in the study for the sample manufacturing share company in table 4.1, below. In the study dependent variable was external audit quality measured by a proxy of discretionary accruals for each company. On the other hand seven independent variables (audit firm size, audit firm industry specialization, audit firm tenure, joint provision of audit and non-audit services, size of independent non-executive board members and CEO duality) were considered in this particular study. The total observation for each dependent and independent variable was 90.

Table 4.1: summary of descriptive statistics for the variables

	DACC	AFS	AFIS	AFT	CAPR	PROVNOS	SINED	CEOSHIP
Mean	0.054366	0.800000	0.181611	2.609756	0.256167	0.480467	0.508889	0.966667
Median	0.017310	1.000000	0.168500	2.000000	0.243000	0.477500	0.635000	1.000000
Max.	0.769551	1.000000	0.356000	5.000000	0.471000	0.820000	0.800000	1.000000
Min.	-0.378400	0.000000	0.021000	1.000000	0.100000	0.174000	0.000000	0.000000
Std.Dev.	0.227304	0.402241	0.077326	1.262498	0.083872	0.156216	0.272151	0.180511

Source: own computation using Eview 8

Mean, median, standard deviation, minimum and maximum values for the dependent and independent variables were key figures, included in the table above.

Summary of descriptive statistics in table 4.1, above disclosed that, average discretionary accrual of the sampled manufacturing share companies for study period was 0.054 which is positively skewed with 0.017 median and with moderate range from a minimum DACC value of -0.378 to a maximum of 0.769.

Discretionary accrual has standard deviation of 0.227 that, indicating the variation in this variable with in manufacturing share companies under consideration was 23%.

In terms of audit firm size table 4.1, indicates mean, median, maximum, minimum and standard deviation when it was measured as dichotomous variable by assigning one if it is Big firm and zero otherwise. Audit firm Size in this particular thesis shows the audit firm grade given by OFAG to classify audit firm's size in to Big (as represented by one) versus non-Big (as

represented by zero) while providing external audit service. The mean, maximum and minimum to this variable were 0.800, 1.000 and 0.000 respectively for sampled manufacturing share companies. The standard deviation was 0.402 (0.40%) which indicating moderate variation of audit quality level among sampled manufacturing share companies as they were audited by Big audit firms and non-Big audit firms and assumed that Big audit firms provide high audit quality services than non-Big audit firms.

Regarding to audit firm industry specialization, the summary statistics tells us it attains a mean value of 0.182. Minimum and maximum statistical value for this particular explanatory variable were 0.021 and 0.356 respectively with standard deviation of approximately 8%, which means that, there was relatively low variations in level external auditors' industry specialization during the study period.

Descriptive statistics information for another interesting variable i.e. audit firm tenure shows significant variation in the number of years that the same auditor audit the same company consecutively range from 1.000 up to 5.000 with average of 2.609. The standard deviation to the number of years that audit firm stay in audit client was 1.262. This highly deviated audit firm tenure in manufacturing share companies may have significant impact on audit quality of the companies.

Table 4.1, above also indicates average value, for certified audit professional ratio (as measured by the ratio of total number of certified professionals auditors to total number of employees in audit service for each audit firm) was 0.256 with minimum 0.100 and maximum value of 0.471, in the companies. The standard deviation of this variable was 0.082 for companies. From these figures what we conclude is those external auditors that audit manufacturing share companies

have somewhat high number of certified audit professional ratio 26% to each firm and have relatively low variation among external auditors provide audit services for share companies under consideration within the study period.

Joint provision of audit and non-audit services, measured as, the ratio non-audit services fee and total audit fee of external auditors' had an average 0.480, with 0.174, 0.82, minimum and maximum values respectively for the period of investigation. This clearly tells us that, below half of external auditors' income were generated from provision of non-audit services for manufacturing share companies. On the other hand standard deviation of this explanatory variable (i.e. 0.156) indicates that, level of non-audit service fee varies between external auditors' of manufacturing share companies and may significantly affect external audit quality.

Regarding to independency of board of directors (i.e. measured by dividing total number of board members by number of independent non-executive external board members for each company) has mean value of 0.509 with standard deviation of 0.272. Maximum and minimum values are 0.800 and 0.000 respectively. This indicates that, on average (i.e. 51%) of board of directors in manufacturing share companies were independent non-executive external board members with a moderate variation (27%) among the companies.

Finally, as it presented in table 4.1, duality of chief executive managers as measured by assigning 1 if chief executive manager is not the member of board of directors and 0 otherwise, table 4.1, shows manufacturing share companies have 0.967, 0.000, and 1.000 for average, minimum and maximum respectively. The table also indicates that, standard deviation for this particular variable was 0.181 i.e. this independent determinant factor deviate by 18% within sampled manufacturing share companies

4.2. Correlation Test

The correlation between two variables measures the degree of linear association between them. If it is stated that dependent variable and independent variables are correlated, it means that dependent variable and independent variables are being treated in a completely symmetrical way. Thus, it is not implied that changes in explanatory variables cause changes in explained and vice versa. Rather, it is simply stated that there is evidence for a linear relationship between the two variables, and that movements in the two are on average related to an extent given by the correlation coefficient.

The value for this correlation coefficient ranged between negative one and positive one. Negative one correlation coefficient indicates perfect negative relationship between dependent variable and independent variables; and positive one correlation coefficient tells us perfect positive relation; while zero correlation coefficient implies that there is no relationship between the two variables.

The purpose of correlation test in this particular study was to analyze the relationship between audit quality and its determinant factors considered in the model, and table 4.2, below show the correlation coefficient of these variables.

Table: 4.2: correlation matrix of dependent and independent variables

	DACC	AFS	AFIS	AFT	CAPR	PROVNOS	SINED	CEOSHIP
DACC	1.000000	-0.048755	0.006349	0.007259	0.640871	0.208957	-0.152364	-0.170917
AFS	-0.048755	1.000000	0.132937	-0.046642	0.073271	-0.052321	-0.183724	0.216645
AFIS	0.06349	0.132937	1.000000	0.025160	-0.112802	0.029222	-0.126741	-0.012209
AFT	0.07259	-0.046642	0.025160	1.000000	0.032966	0.126754	0.008985	-0.057297
CAPR	-0.640871	0.073271	-0.112802	0.032966	1.000000	0.004151	0.015740	0.139153
PROVNO S	0.208957	-0.052321	0.029222	0.126754	0.004151	1.000000	-0.062502	-0.065586
SINED	-0.152364	-0.183724	-0.126741	0.008985	0.015740	-0.062502	1.000000	-0.005337
CEOSHP	0.170917	0.216645	-0.012209	-0.057297	0.139153	-0.065586	-0.005337	1.000000

Source: regression output of eviuew 8

As indicated in table 4.2, correlation coefficient of audit firm size, audit firm industry specialization and audit firm tenure -0.04, 0.06 and 0.07 respectively implies weak correlation of these explanatory variables with explained variable, while, the remaining three independent variables have correlation with dependent variable highest positive correlation coefficient with certified professional auditors ratio, i.e. CAPR ($\rho=-0.641$).

This correlation coefficient suggests that, number of certified professional auditors was dominant factors of external audit quality; and this clearly show increase number of professional auditors

enhances clients' external audit quality. In spite of their magnitude and direction all independent variables have correlation with dependent variable.

4.3. Diagnostics Tests

Diagnostics in this context are characteristics of classical linear regression model which are required to show that the estimation technique, ordinary least squares (OLS), had a number of desirable properties those should be fulfilled, and also so that hypothesis tests regarding the coefficient estimates could validly be conducted (Brooks, 2008). These characteristics are termed as assumptions of classical linear regression model and include the following five assumptions.

- I. The errors have zero mean or $E(u_t) = 0$
- II. The variance of the errors is constant and finite over all values of independent variables
or $\text{var}(u_t) = \sigma^2 < \infty$
- III. The errors are linearly independent of one another or $\text{cov}(u_i, u_j) = 0$, when $i \neq j$
- IV. The error terms are normally distributed or $u_t \sim N(0, \sigma^2)$
- v. There is no relationship between independent variables or $\text{cov}(X_1, X_2, X_3, \dots, X_n) = 0$

Detail Statistical diagnostic tests for these basic assumptions of classical regression model are presented below.

4.3.1. Assumption 1: Errors Have Zero Mean or $E(u_t) = 0$

The first assumption required is that the average value of the errors is zero. According to Chris Brooks, (2008), if a constant term is included in the regression equation, this assumption will never be violated. Since the regression model used in this study includes a constant term, this assumption cannot be violated.

4.3.2. Assumption 2: Homoscedasticity (Variance of the Errors are Constant

$$\text{var}(u_t) = \sigma^2 < \infty)$$

It has been assumed that the variance of the errors is constant; this is known as the assumption of homoscedasticity. If the errors do not have a constant variance, they are said to be heteroscedastic. The presence of heteroscedasticity makes ordinary least square estimators not efficient because the estimated variances of the coefficients (β_i) are biased and inconsistent. Thus, the tests of hypotheses are no longer valid. As per Chris Brooks (2008), there are many methods used to test the existence of heteroscedasticity, in this study the researcher used Breusch-Pagan-Godfrey test. Table (4.3) bellow presents the test statistics.

Table 4.3: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.296264	Prob. F(7,82)	0.9535
Obs*R-squared	2.220027	Prob. Chi-Square(7)	0.9467
Scaled explained SS	1.486102	Prob. Chi-Square(7)	0.9828

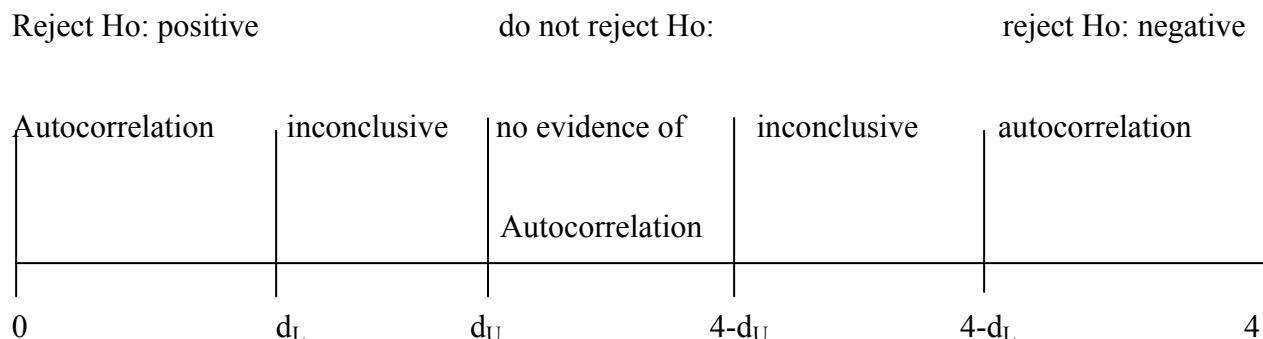
Source: regression output of eview 8

The test result of Breusch-Pagan-Godfrey above, reveals the absence of heteroscedasticity since the p-value of both the test-statistics i.e. F-and χ^2 are considerably more than 5% significant level. As it is shown in the table above, there is no evidence for heteroscedasticity and the null hypothesis that variances disturbances are homoscedastic was not be rejected.

4.3.3. Assumption 3: Covariance between the Error Terms Over time is Zero (Autocorrelation)

It is assumed that the errors are uncorrelated with one another. If the errors are not uncorrelated with one another, it would be stated that they are ‘auto correlated’ or that they are serially correlated. The most popular test to detect the existence of autocorrelation is Durbin-Watson (DW). According to Chris Brooks, (2008), DW has two critical values: an upper critical value (d_U) and a lower critical value (d_L), and there is also an intermediate region where the null hypothesis of no autocorrelation can neither be rejected nor not rejected. These critical values and rejection and not rejections can be presented as follows:

Figure 4.1: rejection and non-rejection region for DW test



Source: Chris Brooks, (2008) p.147

From the figure above, the null hypothesis is rejected and the existence of positive autocorrelation presumed if DW is less than the lower critical value; the null hypothesis is rejected and the existence of negative autocorrelation presumed if DW is greater than 4 minus the lower critical value; the null hypothesis is not rejected and no significant residual

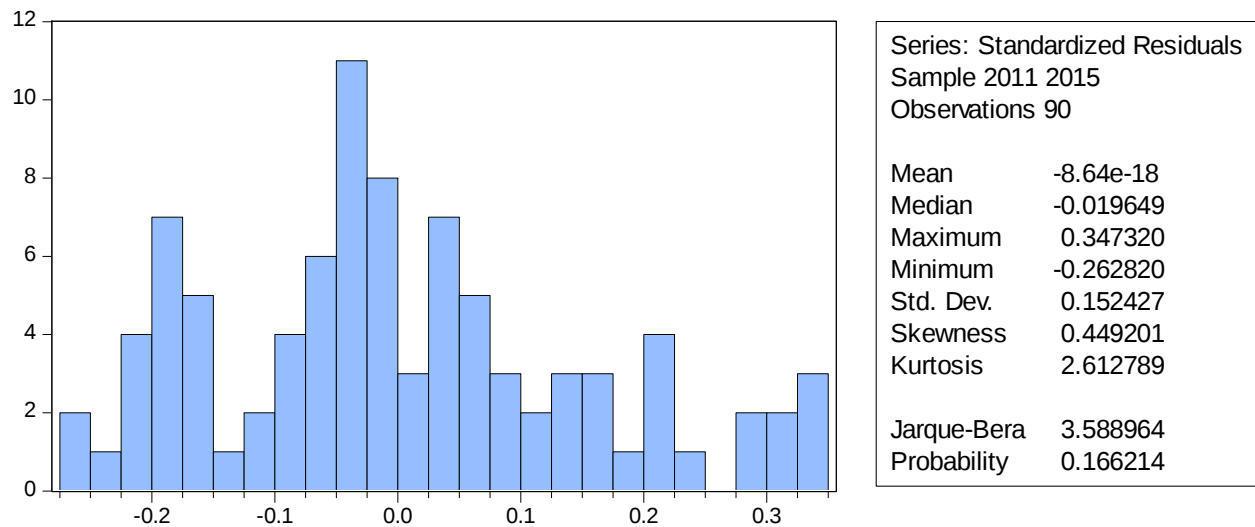
autocorrelation is presumed if DW is between the upper and 4 minus the upper limits. To test this assumption, the DW statistics value in the main regression table should be used.

The regression result in table 4.6 below indicate that, Durbin-Watson statistics value was 2.166 which is approximately close to 2 and in turn implies absence of autocorrelation problem.

4.3.4. Assumption 4: Normality Test

The normality assumption is about the mean of the residuals is zero. According to (Brooks 2008) in order to conduct hypothesis test about the model parameter, the normality assumption must be fulfilled. One of the most commonly applied tests for normality is the Bera—Jarque (BJ) test. BJ uses the property of a normally distributed random variable that the entire distribution is characterized by the first two moments the mean and the variance. Bera and Jarque (1981), formalize these ideas by testing whether the coefficient of skewness and the coefficient of excess kurtosis are jointly zero. A normal distribution is not skewed and is defined to have a coefficient of kurtosis nearest to 3 with the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant. In Bera-Jarque normality test, p-value should exceed 0.05 not to reject the null of normality at the 5% level. Figure: 4.2, in the next page presents the BJ test result for normality.

Figure: 4.2: BJ normality test



Source: regression output of eviuew 8

Based on the test result above, the kurtosis was approximately close to 3 and its Jarque-Bera is insignificant at 5%, significant levels. Therefore, the residuals were normally distributed and the null hypothesis that states residuals follow a normal distribution would not be rejected.

4.3.5. Assumption 5: Multicollinearity Test

An implicit assumption that is made when using the OLS estimation method is that the explanatory variables are not correlated with one another.

According to Chris Brooks, in any practical context, the correlation between explanatory variables will be non-zero, although this will generally be relatively benign in the sense that a small degree of association between explanatory variables will almost always occur but will not cause too much loss of precision. However, a problem occurs when the explanatory variables are very highly correlated with each other, and this problem is known as multicollinearity. This poses problems in interpreting regression coefficients. And it also results in large standard errors

of the estimated regression coefficients and leads to instability of regression estimates. This is not a problem of model specification, but of data (Hair et al., 2006).

The conventional measures for multicollinearity are tolerance and the variance inflation factor (VIF). In this study only tolerance value is used as a measure of multicollinearity. The tolerance value is the amount of an independent variable's predictive ability that is not predicted by the other independent variables in the equation (Hair et al, 2006). As a rule of thumb, the inter-correlation among the independents above 0.80 signals a possible multicollinearity problem (Gujatati, 2003). In order to examine the possible degree of multicollinearity among the explanatory variables, correlation matrixes of the variables were presented in table (4.4) bellow.

Table: 4.4: Pearson correlation Coefficient matrix

	AFS	AFIS	AFT	CAPR	PROVNOS	SINED	CEOSHIP
AFS	1.000000	0.132937	-0.046642	0.073271	-0.052321	-0.183724	0.216645
AFIS	0.132937	1.000000	0.025160	-0.112802	0.029222	-0.126741	-0.012209
AFT	-0.046642	0.025160	1.000000	0.032966	0.126754	0.008985	-0.057297
CAPR	0.073271	-0.112802	0.032966	1.000000	0.004151	0.015740	0.139153
PROVNOS	-0.052321	0.029222	0.126754	0.004151	1.000000	-0.062502	-0.065586
SINED	-0.183724	-0.126741	0.008985	0.015740	-0.062502	1.000000	-0.005337
CEOSHIP	0.216645	-0.012209	-0.057297	0.139153	-0.065586	-0.005337	1.000000

Source: Regression output of Eview 8

As indicated in the table (4.4) above, almost all variables have low correlation power that are considerably lower than 0.80 and this implies no multicollinearity problem in the explanatory variables included in this model.

4.4. Estimation of the Model

Diagnostics tests made before indicates that, the panel data for this particular study supports the desired characteristics of classical linear regression model, and the estimation technique, ordinary least square (OLS) can be used to test study hypothesis.

According to Wooldridge, (2010), to use ordinary least square (OLS) in panel data, there are two models such as: random effect model and fixed effect model. Fixed effect model allows the heterogeneity or individuality that may exist among companies by allowing each company to have its own intercept value which is time invariant.

An alternative to the fixed effects model is the random effects model, which is sometimes also known as the error components model. As with fixed effects, the random effects approach proposes different intercept terms for each entity and again these intercepts are constant over time, with the relationships between the explanatory and explained variables assumed to be the same both cross-section ally and temporally.

To determine the kind of estimation model, (random effect, fixed effect), is suitable for the given data, the researcher used Hausmann test. Based on Hausmann test: the hypothesis is

H0: Random effect model is appropriate

H1: Fixed effect model is appropriate

The null hypothesis will reject if p-value from Hausmann test is significant at 5% level and fixed effect model will appropriate estimation model for panel data in the study.

Table 4.5: Hausmann test:

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	10.370435	7	0.1685

Source: regression output of Eview 8

From the result of the test as indicated above it is found that there was an evidence to fail to reject the null hypothesis of random effect model is appropriate. Based on the test result the p-value is larger (17%) than 0.05. Hence, random effect model is appropriate to estimate the regression results in this study.

4.5. Regression Analysis

Hausmann test to determine appropriate estimation model (i.e. fixed effect or random effect) assure that random effect model was suitable estimation model for this study. Therefore, final data for regression were ran using random effect panel regression model, and summary of the result of this model is presented below in table 4.6, from where detailed analysis and discussion of the result was given.

Regarding to how well does the model containing the explanatory variables that was proposed actually explain variations in the dependent variable; quantities known as goodness of fit

statistics that, test how well the sample regression function fits the data i.e., how ‘cbse’ the fitted regression line is to all of the data points taken together is used (Brooks, 2008).

R-squared is probably the most popular measure of goodness of fit in statistical modeling. There is a natural appeal for a measure that can be computed for a fitted model, takes values between 0 and 1, becomes larger as the model “fits better”, and provides a simple and clear interpretation.

According to table 4.6 below, regression result of random effect model, it is observed that the coefficient of determination of R-squared and Adjusted R-squared were 55% and 51% respectively. The result of this estimation particularly the adjusted R-squared implies that 51% of the change in audit quality is successfully explained by the selected firm specific factors as (audit firm size, audit firm industry specialization, audit firm tenure, certified professional auditors ratio, joint provision of audit and non-audit services) well as company related factors (size of independent non-executive board members and duality of chief executive officer) or independent variables included in the model. However, the remaining 49% changes in audit quality were caused by other factors that were not included in the model. This indicates that the model is almost more than an average fit the data from sampled companies.

In addition regarding to the adequacy of the model, the F-test which measures the existence of linear relationship between the dependent and independent variable also revealed that a highly significant relationship exist between the variables. In addition, the observed value of DW was 2.166 which is close to 2.00, revealed the absence of serial correlation in the regression results. Therefore, the model is good model and can be used to draw significant suggestions.

Regression result of random effect model in table 4.6, disclosed that, two audit firm-specific explanatory variable (i.e. audit firm industry specialization, and joint provision of audit and non-

audit services) and one of company related independent variable (i.e. CEO duality) under consideration have positive coefficient, while, the remaining two audit firm specific independent variable (i.e. audit firm size, audit firm tenure and ratio of certified professional external auditors) and one company related explanatory variable (i.e. size of independent non-executive board members) have negative coefficient.

From the estimated regression result in table 4.6 below it can be also observed that, ratio of certified professional auditors and duality of chief executive managers were related with dependent variable and statistically significant at 1% level while, the relationship between joint provision of audit and non-audit services and size independent external board members with audit quality services of manufacturing share companies were statistically significant at 5% level. On the other hand, audit firm size, and audit firm industry specialization and audit firm tenure were insignificant for the companies external audit quality.

Positive coefficient of audit firm industry specialization, joint provision of audit and non-audit services and CEO duality indicates that, there was direct positive relationship between explained variable and these explanatory variables. The direct relationship of CEO duality and joint provision of audit and non-audit services with discretionary accrual was statistically significant at 1% level and at 5% respectively, but it was insignificant for audit firm industry specialization and the dependent variable relationship even at 10% level of significant.

On the other hand, size of non-executive board members audit firm size and audit firm tenure, ratio of certified professional auditors were the explanatory variables with negative coefficient. This indicates that, these independent variables were inversely related with the level of discretionary accrual in manufacturing share companies. Inverse relationship of ratio of certified

professional auditors and size of independent non-executive board members with discretionary accrual was significant at 1% and 5% respectively. However, the relationship of audit firm size and audit firm tenure with the dependent variable was insignificant.

Table 4.6: Random effect regression model result for the determinants of external audit quality

Dependent Variable: DACC

Method: Panel EGLS (Cross-section random effects)

Date: 10/24/16 Time: 01:51

Sample: 2011 2015

Periods included: 5

Cross-sections included: 18

Total panel (balanced) observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.182181	0.129651	-1.405169	0.1637
AFS	-0.044288	0.043734	-1.012669	0.3142
AFIS	0.199439	0.220813	0.903204	0.3691
AFT	-0.008219	0.010836	-0.758527	0.4503
CAPR	-1.873981	0.202797	-9.240669	0.0000*
PROVNOS	0.263941	0.108250	2.438252	0.0169**
SINED	-0.132376	0.062904	-2.104408	0.0384**
CEOSHIP	0.304109	0.095765	3.175577	0.0021*
Weighted Statistics				
R-squared	0.550316	Mean dependent var		0.054366
Adjusted R-squared	0.511929	S.D. dependent var		0.227304
S.E. of regression	0.158799	Sum squared resid		2.067816
F-statistic	14.33577	Durbin-Watson stat		2.166542
Prob(F-statistic)	0.000000			

Source: Regression output of eviiew 8

Note: single stated coefficient estimates are significant at 1 %(*), double stated coefficient estimates are significant at 5 % (**), triple stated coefficient estimates are significant at 10% whereas non-stated are insignificant.

The direct significant relationship of joint provision of audit and non-audit services and CEO duality with discretionary accrual indicates that, these independent variables increase the level of discretionary accrual and reduce audit quality in large tax payer manufacturing share companies. Contrary, inverse significant relationship of ratio of certified professional auditors and size of independent non-executive board members with discretionary accrual indicate that these independent variables reduce the level of discretionary accrual and results in high audit quality in large tax payer manufacturing share companies during the study period.

Audit firm size was one of the key explanatory variables of external audit quality in the literature and it was considered that, this factor can affect quality of audit services in Ethiopian large tax payers manufacturing share companies. According to DeAngelo (1981) audit firm size has positive impact on external audit quality for the reasons that, larger audit firms have several clients and less likely to be economically dependent upon the revenue from simply one or two and this serves as an incentives to detect material errors and irregularities in order to maintain their professional reputation, resulted in increased auditor independence, which is a recognized principal component of audit quality.

However, data from manufacturing companies was not support the idea that, audit firm size has significant positive influence on external audit quality.

The results of the regression analysis shown in table 4.6 revealed that, audit firm size attains a regression coefficient of -0.044 and P-value of 0.3142. This indicates that, the impact of audit

firm size on audit quality of large tax payer manufacturing share companies was insignificant even at 10% level; since p-value is more than 0.1 (i.e. 31%).

The result was consistent with the finding of Louis and Robinson (2005), whose suggest that, since the audit that quality is produced by individual auditors rather than the firms for which they work, audit firm size should not be a prime determinant of higher level of audit quality that as long as professional standards and qualifications are maintained throughout the sector; otherwise small size audit firms may be replaced simply because they are less well known, even though they may well be providing as high or higher audit quality services. Dehkordi and Makarem (2011) explained insignificant impact of audit firm size as since audit services are performed in accordance with generally accepted auditing standards (GAAS) and qualified individual auditors' quality of audit services provided by small audit firms and Big audit firms will be equally good. Consistent with the aforementioned reasons p-value of audit firm size i.e. 0.3142 tells us this variable not significantly affect audit quality in manufacturing share companies in Ethiopia and leads to reject the working hypothesis of that stated as there is significant positive relationship between audit firm size and audit quality as measured by discretionary accruals.

Audit firm industry specialization was the other important key factor of external audit service quality. Industry specialization has direct relationship with external audit quality of companies under consideration since, regression result in table 4.6, disclosed positive coefficient for this independent variable. Balsam et.al (2003) stated that audit firms that are industry specialist invest time and resources to developing personnel and technology in specific industry to improve audit quality. Thus auditors working in audit firms that are industry specialist have more opportunities to develop expertise than working in non-specialist audit firms.

Since, there are fundamental differences in characteristics such as, business operations, accounting systems, internal control systems and level of risks vary by industry with different nature and incidence of financial statement errors which require varying methods of error detections, auditors who have industry specific expertise have better knowledge concerning that client's business operations and are better equipped in detecting errors or abnormalities than those auditors without such expertise (Krishnan 2003).

Besides, the increased ability of errors detection, industry specialization or industry specialist experts attempt to protect their reputation capital through increased compliance with generally accepted auditing standards relative to non-specialist auditors. These different logical explanations of audit quality and auditors industry specialization relationship enable us to conclude that, auditors' industry specialization has a positive significant impact on audit quality services.

Operational regression model result from table 4.6, disclosed that coefficient for industry specialization was 0.1402 and p-value of 0.4147. This indicates that, existed reality for external audit quality and audit firm industry specialization relationship in companies was inversely even though, it is statistically insignificant. Despite its inverse relation, industry specialization has no significant influence on external audit quality in large tax payer manufacturing share companies and leads to reject the working hypothesis that, stated as audit firm industry specialization has significant positive impact on external audit quality of the companies.

Siregar, et.al (2012) pointed out that, limiting auditor tenure destroys client-specific knowledge (client's system, and internal controls) essential for an effective and efficient audit, thus increasing audit failures at initial years of audit engagements. Extended tenure, however,

increases audit quality over time as the auditor gains a better understanding of the client's system, and internal control.

Panel model regression result in table 4.6, revealed the coefficient of audit firm tenure was negative, although insignificant for study period. Regression result for this particular determinant factor attains coefficient of -0.008, and P-value of 0.4503. The parameter of audit firm tenure which was -0.008 in the result of panel regression model indicated that, audit firm tenure was negatively related as expected and hypothesized. The result was consistent with findings of Adeyemi, S. B. et.al 2012. Augustine et.al 2013; Ilaboya O. J. and Ohiokha F. I., 2014; and. The coefficient value indicates that, audit quality increases when there is extended audit firm-client relationship since, auditors develop in depth understand about clients' business operation than early –year audit engagement.

The negative parameter is in line with the idea that states as since the initial low-balling encourages auditors to accommodate their clients so as to extract future potential quasi-rent, auditor independence may be impaired even in the early part of audit firm tenure. Therefore, the cost of independency in extended audit firm tenure off sets by its benefit(i.e. tenure, however, increases audit quality over time as the auditor gains a better understanding of the client's system, and internal controls).

P-value of audit firm tenure indicates that, negative impact of short-term audit-client relationship on discretionary accrual was not significant in large tax payer manufacturing share companies. Hence, hypothesis that stated as audit firm tenure has significant positive impact on external audit quality of manufacturing share companies was rejected.

Random effect model result in table 4.6, disclosed that, certified professional auditors' ratio had significant positive relationship with external audit quality. Certified professional auditors' ratio in this study can be defined as the percentage of external auditors in the external audit function who have the ACCA certification. The ratio of certified audit professionals in relation to the total number of employees in audit services which is a measure of certified audit professionals' ratio (CAPR) has a positive effect on audit quality.

Regression result in table 4.6 revealed that certified professional auditors' ratio had a coefficient of -1.874 with p-value of 0.0000. This indicates that, certified professional auditors ratio was the major determinant factor of external audit quality in manufacturing share companies as its β coefficient was greater than the other explanatory variable. Similarly, correlation analysis gave the same conclusion that certified professional auditors' ratio was with the highest negative correlation coefficient with audit quality as measured by discretionary accrual. It can be also observed from regression result that, this explanatory variable has a significant positive impact on external audit quality of companies considered in the study since this explanatory variable have significant negative impact on discretionary accrual.

The reason behind this positive and significant relationship of audit quality and ratio of certified professional auditors is stated in section 3.4.2.4. as professional certification reflects possession of the auditor to the structure of developed knowledge includes general knowledge, which is the facts, theories and definitions, and special knowledge related to the completion of some tasks, and is correlated to a large extent with the scope of the efficiency of memory and the personal attributes and beliefs affect the test and modernize the knowledge infrastructure, and the pace of increase in building good attitudes and having prior knowledge about fraud and this well organized and certified knowledge into memory quickly and easily call for the knowledge on

need. In other words audit firm with higher number of certified audit professionals is able to perform relevant roles or tasks to the required standard more effectively and has more capabilities and competence to deal with appropriateness of accounting and reporting processes, thus the higher the certification ratio, reduces occurrence discretionary accrual achieving the higher audit quality.

Regarding to provision of NAS by external auditors a theoretical model developed by DeAngelo, 1981; stated that, such NAS impair auditors' independence because of the existence of client-specific future quasi rents proxied by non-audit services fee provided to incumbent auditors.

Regulators also argue that, joint provision of audit and non-audit services for the same client create economic bonding i.e. becoming financially dependent on fees of non-audit services provided for client and may prompt auditors' concessions or shrinking in response to managements' financial reporting demands. This notion was supported by empirical analysis made by Frankel et al. 2009; in Nigeria. Based on their statistical test result, the authors stated that, joint provision of audit and non-audit services aggravate the economic bond between the audit firm and their clients which may potentially cause the audit firm financially depend on the client. Thus, the manager opportunistically exploits this economic dependency to influence audit firm not to challenge on clients' management questionable accounting choice for fear to lose lucrative non-audit fee which create incentive for audit firms to compromise their objectivity.

These opposing arguments for joint provision of audit and non-audit services were supported by evidence from regression result of this study. Provision of non-audit serves as measure ratio of non-audit services fee to total audit fee was positively related with external audit quality in large tax payer manufacturing share companies. As showed in table 4.6, statistical coefficient of joint

provision of audit and non-audit services was 0.264 with p-value 0.0169. This figure indicates that, provision NAS has direct positive relationship with audit discretionary accrual; and it was statistically significant at 5% level for companies considered in the study. Therefore, joint provision of audit and non-audit services for the same client was the other vital determinant factor that negatively and significantly influences external audit quality of large tax payer manufacturing share companies.

The coefficient value 0.264 and p-value 0.0169 of joint provision of audit and non-audit services from random effect regression model result in table 4.6, indicates that this explanatory variable has negative significant impact on external audit quality in large tax payer manufacturing share companies and thus, the intended working hypothesis that states joint provision of audit and non-audit services has significant negative relationship with external audit quality was rejected.

Continuing to size of independent external non-executive board members, the regression result on the table 4.6 exhibits statistical evidence that, percentage ratio of non-executive board of directors has significant negative relationship with discretionary accrual. This result is consistent with signaling theory. The need to have independent boards arise from the agency- theoretic premise that if boards exist to monitor the shirking or self-dealing by inside management, then outside directors in general and independent directors in particular should be more effective monitors than are insiders whose interest may be at odds with inside shareholders (weishbach,1988). This implies that, independent boards of directors are responsible to monitor the opportunistic behaviors of managements for protecting shareholders and potential investors. In terms of formal linkage between board of directors and external audit quality is that, the boards collaborate with management in selecting the external auditor, often subject to shareholder ratification. Abdullah, et al. (2008) also argued that since outside members do not

play a direct role in the management of the company, non-executive directors encouraged more intensive audits as a complement to their own monitoring and improve audit quality.

From regression result in table (4.6), board independence in this study attains p-value 0.0384, and coefficient of -0.1324. This negative coefficient and p-value of the variable can be explained as this explanatory variable has significant negative relationship with discretionary accrual in line with the logical explanation, that, a more independent board is concerned with effectively discharging its monitoring role, thereby increasing pressures to enhance the external audit function in manufacturing share companies and the working hypothesis of the study; that stated as _size of independent non-executive board members had significant positive impact on external audit quality was not rejected.

Finally, Empirical studies on CEO duality and external audit quality relationship were in controversy. Some of the studies found positive impact of CEO duality on discretionary accrual; others fail to found evidence for its positive impact. Regarding to CEO duality variable, regression result of panel model in table 4.6, revealed that, large tax payer manufacturing share companies discretionary accrual was positivey related with CEO duality and the relationship was statistically significant at 1%. This statistically significant negative relationship between discretionary accrual and CEO duality was consistent with previous research findings of Velnampy, T. et al. (2014), Abdullah, et al. (2008) and Semiu et al. (2010).

From the table, CEO duality had estimated coefficient of 0.3041 with p-value of 0.0021. The positive coefficient of this explanatory variable indicates it has negative impact on external audit quality.

The positive relationship of discretionary accrual and CEO duality may be due to the reason explained by Semiu et al. (2010), i.e., if, chief executive officer of a company is also chairman for board of directors he/she participate in external auditors appointment process and imposes limits on the supervision by the auditors; restricting the scope of the auditors' investigations and scrutiny for his/her advantage and demands low audit quality. In addition, When the CEO also serves the dual position of chairperson of the board (i.e., CEO duality exists), this signifies the concentration of decision making power and hampers board independence and reduce the ability of the board to execute its oversight roles.

Inverse relationship of CEO duality and external audit services in the share companies was statistically significant at 1% level and working hypothesis for this particular explanatory variable that stated as _ there is significant negative relationship between CEO duality and external audit quality in manufacturing share companies' was not rejected.

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Chapter Five: Conclusions and Recommendations

Starting from problem identification of the study till to this point different document, theoretical perspectives and empirical analysis were analyzed in order to have better understand about research problem, to know what was done on it in previous, and which part needs further investigation. Based on the part of research problem that need more investigation the researcher tried his own best and finally want to put his final conclusions and recommendations. Therefore this particular chapter of the study deals with the conclusions and recommendation of the study which is based on what is discussed in the previous chapters and the main finding of this study.

5.1. Conclusions

Audit is playing an important role in developing and enhancing the global economy and business firms. The need for external auditors may be seen as a response to the agency problem and the audit functions as a mechanism to attest to the accountability and stewardship of company management to reduce the possibility of innocent mistakes and deliberate misstatements such as fraud and management manipulation.

Different stakeholders such as, shareholders, regulators, brokers, financial analysts, and potential investors are in need of reliable and accurate financial information to make sound resource allocation decision. Mostly qualities of financial information prepared by the management are assured by external auditors. Auditors express an opinion on the fairness of financial statements and it gives assurance for financial statement users that, the data being reported are properly measured and fairly presented. The confidence and trust place on financial statement by users increase, when high quality external audit service is performed. In other words high audit quality

is viewed as one of the main factors that affect the credibility of financial information and the higher the audit quality is, results in the information being more accurate.

The basic question is that, what high audit quality is and what factors influence it. Numerous researches were conducted and have attempted to identify factors affect audit quality; however, the findings of prior empirical studies have provided varying evidence related to the impact of these factors on audit quality. Furthermore, the majority of these studies have been conducted in developed countries that have many companies' similarities.

In light of the above notation, the main objective of this study was to examine the determinants of external audit quality in the Ethiopian large tax payer manufacturing share companies. Both audit firm-specific factors (audit firm size, audit firm industry specialization, audit firm tenure, percentage ratio of certified public accountant and joint provision of audit and non-audit services) and client-related factors (proportion of independent external non-executive board members and duality of chief executive officer) those commonly influence external audit quality was considered in the study. The study examined whether the selected variables significantly affect audit quality or not. To achieve the overall objective the study used quantitative data collected through structured reviews of documents as well as data collected through personal inquiry guiding questions from the sample of eighteen manufacturing share companies and their corresponding external auditors over the period of 2010-2015. The collected data were analyzed by employing panel least square regression analysis model using statistical package _EVIEW 8'.

The correlation analysis in table 4.1 revealed that, almost all independent variables were correlated with dependent variable despite their magnitude and direction.

The tests for the classical linear regression model also showed as the data fit the basic desired characteristics of classical linear regression model (CLRMs).

The adjusted R square of 0.511929 indicates that external audit quality in case of large tax payer manufacturing share companies explained on average 51% by audit firm-specific factors; i.e. audit firm size, audit firm industry specialization, audit firm tenure, certification percentage ratio, provision of both audit and non-audit services and company related explanatory variables; i.e. duality of chief executive officers and board independence (as measured the percentage of independent non-executive board members) . This implies that, theses explanatory variables are important determinants of external audit quality for Ethiopia manufacturing share companies.

The impact of audit firm size on audit quality in large tax payer manufacturing share companies was insignificant. This was consistent with previous studies those found insignificant impact of audit firm size and audit quality and suggested audit firm size alone is not prime determinant factor of audit quality.

The relationship between audit firm industry specialization and audit quality in large tax payer manufacturing share companies was positive but insignificant.

In line with the study hypothesis, random effect mode regression result disclosed that, audit firm tenure have positive relationship with audit quality of large tax payer manufacturing share companies in Ethiopia although it was insignificant.

Result from panel regression analysis revealed that, external audit quality has positively significant relations with certified professional auditors' percentage ratio, but negative and significant relation with joint provision of audit and non-audit services. Positive relationship of certified professional auditors and external audit quality of manufacturing share companies was significant at 1%, whereas it was at 5% for joint provision of audit and non-audit services. In addition, large manufacturing share companies' external audit quality has statistically significant

positive relation with one of corporate governance attribute i.e. size of independent non-executive board members and negative significant relationship with duality of chief executive officer.

Therefore, four determinant factors included in the model of this study (certified professional auditors' percentage ratio, joint provision of audit and non-audit services, size of independent non-executive board members and duality of chief executive officers) out of the seven independent variables; have statistically significant influence on external audit quality of large tax payer manufacturing share companies. Out of variable those have significant influence on audit quality in large manufacturing share companies certified professional auditors percentage ratio was the major determinant factor with the highest coefficient followed by joint provision of audit and non-audit services for manufacturing share companies.

5.2. Recommendations

The following recommendations are made based on findings of the research:

Statistical analysis of the study indicates that certified professional auditors' percentage ratio was the major determinant factor of external audit quality in manufacturing share companies. Therefore, the researcher strongly recommends that manufacturing share companies to enhance financial information credibility and transparency through audited by audit firms with large number of certified professional auditors.

Based on the analysis it is concluded that, there was positive significant relationship between joint provision of audit and non-audit services and discretionary accrual which means this explanatory variable has significant negative impact on audit quality of manufacturing share

companies. Thus, it is recommended to regulatory bodies to prevent external auditors from engagement in joint provision of audit and non-audit services to their client.

The study also found that, size of independent non-executive board members and CEO duality significantly influence audit quality in large manufacturing share companies. So, it is recommended to regulatory body of manufacturing share companies should consider board independence as vital factor to determine misbehavior of management and keep high audit quality.

The study indicates that, large manufacturing share companies faced the problem of earning management and external auditors failed to detect such activity. To avoid such opportunistic management behavior researcher recommends manufacturing share companies to hire audit firms with higher number of certified professional auditors to conduct intensive audit.

Finally, as suggestions for future research, although, the study included most important determinant factors those influence external audit quality but, at the same time it stress the fact that, further research to identify fundamental factors of audit quality is still welcome. Therefore, it is recommended that future studies on audit quality determinants should accommodate other company related factors like; audit committee characteristics and board size.

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Appendices

Appendix 1: Correlated Random Effects - Hausman Test

Equation: EQ01

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.426515	7	0.2235

** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
AFS	-0.234649	-0.044288	0.009042	0.0453
AFIS	-0.164601	0.199439	0.167027	0.3731
AFT	-0.005485	-0.008219	0.000723	0.9190
CAPR	2.058051	1.873981	0.188524	0.6716
PROVNOS	-0.043536	0.263941	0.031337	0.0824
SINED	-0.426426	-0.132376	7.968424	0.9170
CEOSHIP	-0.147043	-0.304109	0.044441	0.4562

Cross-section random effects test equation:

Dependent Variable: DACC

Method: Panel Least Squares

Date: 10/29/16 Time: 23:13

Sample: 2011 2015

Periods included: 5

Cross-sections included: 18

Total panel (unbalanced) observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.139936	1.421676	0.098431	0.9228
AFS	-0.234649	0.104667	-2.241871	0.0395
AFIS	-0.164601	0.464527	-0.354342	0.7277
AFT	-0.005485	0.028983	-0.189265	0.8523
CAPR	2.058051	0.479219	4.294595	0.0006
PROVNOS	-0.043536	0.207497	-0.209817	0.8365
SINED	-0.426426	2.823541	-0.151025	0.8818
CEOSHIP	-0.147043	0.231543	-0.635056	0.5344

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.832835	Mean dependent var	0.039434
Adjusted R-squared	0.582088	S.D. dependent var	0.203180
S.E. of regression	0.131348	Akaike info criterion	-0.943404
Sum squared resid	0.276037	Schwarz criterion	0.101457
Log likelihood	44.33979	Hannan-Quinn criter.	-0.562924
F-statistic	3.321415	Durbin-Watson stat	3.109690
Prob(F-statistic)	0.008034		

Appendix 2: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.296264	Prob. F(7,82)	0.9535
Obs*R-squared	2.220027	Prob. Chi-Square(7)	0.9467
Scaled explained SS	1.486102	Prob. Chi-Square(7)	0.9828

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 10/29/16 Time: 02:08

Sample: 1 90

Included observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.002821	0.024867	-0.113458	0.9099
AFS	0.000940	0.008388	0.112048	0.9111
AFIS	-0.004052	0.042352	-0.095680	0.9240
AFT	0.001279	0.002078	0.615260	0.5401
CAPR	0.017540	0.038897	0.450930	0.6532
PROVNOS	0.002786	0.020762	0.134180	0.8936
SINED	0.010044	0.012065	0.832466	0.4076
CEOSHIP	0.013777	0.018368	0.750082	0.4554
R-squared	0.024667	Mean dependent var		0.022976
Adjusted R-squared	-0.058593	S.D. dependent var		0.029342
S.E. of regression	0.030189	Akaike info criterion		-4.077989
Sum squared resid	0.074733	Schwarz criterion		-3.855784
Log likelihood	191.5095	Hannan-Quinn criter.		-3.988383
F-statistic	0.296264	Durbin-Watson stat		1.995739
Prob(F-statistic)	0.953513			

Appendix 3: Ratio data

companies	years	dacc	afs	afis	aft	capr	provnos	sined	ceoship
1	2011	0.027104	1.000000	0.162000	1.000000	0.281000	0.546000	0.800000	1.000000
1	2012	-0.207914	1.000000	0.118000		0.238000	0.564000	0.800000	1.000000
1	2013	0.378063	1.000000	0.241000		0.357000	0.492000	0.800000	1.000000
1	2014	-0.242370	1.000000	0.108000		0.145000	0.659000	0.800000	1.000000
1	2015	0.167484	0.000000	0.212000	5.000000	0.179000	0.574000	0.800000	0.000000
2	2011	0.225920	1.000000	0.042000	1.000000	0.400000	0.232000	0.750000	1.000000

2	2012	-0.048392	0.000000	0.080000		0.316000	0.477000	0.750000	1.000000
2	2013	0.301464	1.000000	0.021000	3.000000	0.421000	0.762000	0.750000	1.000000
2	2014	0.484055	1.000000	0.311000		0.364000	0.820000	0.750000	1.000000
2	2015	0.100589	1.000000	0.106000	2.000000	0.348000	0.252000	0.750000	1.000000
3	2011	0.075669	1.000000	0.125000		0.250000	0.625000	0.670000	1.000000
3	2012	-0.164107	0.000000	0.124000		0.192000	0.742000	0.670000	1.000000
3	2013	0.034094	0.000000	0.179000		0.231000	0.396000	0.670000	1.000000
3	2014	-0.304033	1.000000	0.165000	5.000000	0.223000	0.627000	0.670000	1.000000
3	2015	-0.247313	1.000000	0.192000	1.000000	0.129000	0.432000	0.670000	1.000000
4	2011	0.420984	1.000000	0.296000		0.409000	0.725000	0.400000	1.000000
4	2012	-0.039646	1.000000	0.211000		0.273000	0.568000	0.400000	1.000000
4	2013	0.37168	1.000000	0.159000	4.000000	0.455000	0.475000	0.400000	1.000000
4	2014	0.137746	1.000000	0.177000	1.000000	0.294000	0.692000	0.330000	1.000000
4	2015	-0.234701	1.000000	0.306000	1.000000	0.119000	0.405000	0.330000	1.000000
5	2011	0.554471	1.000000	0.186000		0.259000	0.492000	0.000000	0.000000
5	2012	-0.103048	1.000000	0.295000		0.179000	0.452000	0.000000	1.000000
5	2013	-0.093287	1.000000	0.332000	4.000000	0.273000	0.585000	0.400000	1.000000
5	2014	0.353514	1.000000	0.356000		0.455000	0.272000	0.400000	1.000000
5	2015	0.249131	1.000000	0.128000	2.000000	0.375000	0.246000	0.400000	1.000000
6	2011	0.307733	1.000000	0.261000	2.000000	0.281000	0.546000	0.710000	1.000000
6	2012	-0.048787	1.000000	0.136000		0.286000	0.474000	0.710000	1.000000
6	2013	0.203602	1.000000	0.141000	2.000000	0.235000	0.200000	0.710000	1.000000
6	2014	0.226190	1.000000	0.152000		0.238000	0.220000	0.710000	1.000000
6	2015	-0.042909	1.000000	0.263000	2.000000	0.179000	0.652000	0.710000	1.000000
7	2011	-0.009299	1.000000	0.261000		0.257000	0.546000	0.330000	1.000000
7	2012	-0.023701	1.000000	0.332000	3.000000	0.279000	0.561000	0.330000	1.000000
7	2013	0.145271	1.000000	0.305000		0.261000	0.582000	0.330000	1.000000
7	2014	0.335550	0.000000	0.309000		0.245000	0.478000	0.330000	1.000000
7	2015	-0.079361	0.000000	0.212000	3.000000	0.194000	0.428000	0.330000	1.000000
8	2011	-0.171206	1.000000	0.233000	2.000000	0.174000	0.458000	0.430000	1.000000
8	2012	0.15233	1.000000	0.106000		0.286000	0.291000	0.430000	1.000000

8	2013	-0.003947	1.000000	0.203000		0.235000	0.455000	0.430000	1.000000
8	2014	0.211926	1.000000	0.115000	3.000000	0.258000	0.571000	0.430000	1.000000
8	2015	-0.118548	1.000000	0.148000	1.000000	0.201000	0.431000	0.430000	1.000000
9	2011	0.769551	1.000000	0.127000		0.471000	0.621000	0.750000	1.000000
9	2012	0.065292	0.000000	0.162000		0.143000	0.540000	0.750000	0.000000
9	2013	-0.092022	0.000000	0.173000		0.182000	0.305000	0.750000	1.000000
9	2014	0.214537	0.000000	0.297000	4.000000	0.125000	0.772000	0.750000	1.000000
9	2015	-0.334027	1.000000	0.223000	1.000000	0.100000	0.448000	0.750000	1.000000
10	2011	-0.243550	1.000000	0.296000		0.154000	0.292000	0.800000	1.000000
10	2012	-0.355702	1.000000	0.254000		0.192000	0.174000	0.800000	1.000000
10	2013	0.080191	1.000000	0.282000		0.231000	0.432000	0.800000	1.000000
10	2014	0.003958	1.000000	0.254000	5.000000	0.294000	0.421000	0.800000	1.000000
10	2015	-0.378399	1.000000	0.136000	1.000000	0.100000	0.263000	0.800000	1.000000
11	2011	0.317117	1.000000	0.046000		0.243000	0.732000	0.710000	1.000000
11	2012	0.099989	1.000000	0.117000	3.000000	0.316000	0.661000	0.710000	1.000000
11	2013	0.228090	0.000000	0.102000		0.421000	0.502000	0.710000	1.000000
11	2014	0.296752	0.000000	0.127000		0.364000	0.443000	0.710000	1.000000
11	2015	-0.146551	1.000000	0.213000	3.000000	0.179000	0.354000	0.710000	1.000000
12	2011	-0.055835	1.000000	0.296000		0.286000	0.458000	0.600000	1.000000
12	2012	-0.250344	1.000000	0.248000		0.214000	0.494000	0.600000	1.000000
12	2013	0.021382	1.000000	0.192000	4.000000	0.176000	0.562000	0.500000	1.000000
12	2014	0.168784	1.000000	0.225000		0.233000	0.277000	0.500000	1.000000
12	2015	-0.265429	1.000000	0.117000	2.000000	0.206000	0.462000	0.500000	1.000000
13	2011	-0.004805	1.000000	0.114000		0.206000	0.732000	0.750000	1.000000
13	2012	0.196799	0.000000	0.125000		0.273000	0.732000	0.750000	1.000000
13	2013	-0.093238	1.000000	0.148000	4.000000	0.294000	0.697000	0.750000	1.000000
13	2014	-0.229219	1.000000	0.066000		0.194000	0.174000	0.750000	1.000000
13	2015	0.000581	1.000000	0.222000	2.000000	0.213000	0.437000	0.750000	1.000000
14	2011	-0.216382	1.000000	0.152000		0.263000	0.241000	0.400000	1.000000
14	2012	-0.234406	0.000000	0.126000		0.204000	0.345000	0.400000	1.000000
14	2013	0.004382	0.000000	0.199000	4.000000	0.156000	0.649000	0.330000	1.000000

14	2014	-0.068784	1.000000	0.172000		0.183000	0.373000	0.330000	1.000000
14	2015	0.016342	1.000000	0.083000	2.000000	0.206000	0.580000	0.330000	1.000000
15	2011	0.382710	1.000000	0.162000		0.281000	0.546000	0.000000	1.000000
15	2012	-0.097914	1.000000	0.118000		0.238000	0.564000	0.000000	1.000000
15	2013	0.280633	1.000000	0.241000	4.000000	0.357000	0.492000	0.000000	1.000000
15	2014	-0.123703	1.000000	0.108000		0.145000	0.659000	0.000000	1.000000
15	2015	0.107484	0.000000	0.212000	2.000000	0.179000	0.574000	0.000000	1.000000
16	2011	0.018278	1.000000	0.193000		0.286000	0.458000	0.750000	1.000000
16	2012	-0.234689	1.000000	0.287000		0.243000	0.293000	0.750000	1.000000
16	2013	0.432384	0.000000	0.105000	4.000000	0.394000	0.328000	0.750000	1.000000
16	2014	-0.002497	0.000000	0.080000		0.354000	0.431000	0.750000	1.000000
16	2015	-0.086814	0.000000	0.077000	2.000000	0.239000	0.225000	0.750000	1.000000
17	2011	0.327104	1.000000	0.122000		0.261000	0.586000	0.000000	1.000000
17	2012	0.17445	1.000000	0.138000	3.000000	0.253000	0.524000	0.000000	1.000000
17	2013	0.290633	1.000000	0.261000	1.000000	0.371000	0.492000	0.000000	1.000000
17	2014	-0.137034	1.000000	0.128000		0.155000	0.609000	0.000000	1.000000
17	2015	0.147484	1.000000	0.222000	2.000000	0.197000	0.554000	0.000000	1.000000
18	2011	0.028278	1.000000	0.173000		0.266000	0.448000	0.200000	1.000000
18	2012	0.198901	1.000000	0.272000		0.243000	0.274000	0.200000	1.000000
18	2013	0.318901	1.000000	0.115000	4.000000	0.384000	0.348000	0.200000	1.000000
18	2014	-0.018354	1.000000	0.141000		0.334000	0.401000	0.200000	1.000000
18	2015	-0.174814	1.000000	0.087000	2.000000	0.219000	0.258000	0.200000	1.000000

Appendix 4: list of manufacturing share companies selected as a sample

Adamitulu pesticide processing share company

Addis Ababa Bottle and Glass share company

Ambo mineral water share company

Anbessa shoe Share Company

Awash wine share company

East Africa Bottling share company

East cement Share Company

Ethiopian crown and can manufacturing share company

Ethiopian pharmaceuticals manufacturing share company

Ethiopian Plastic Share Company

Faffa Food Share Company

Horizon-Addis Tyre Share Company

Kaliti metal products factory Share Company

Kalitti Food Share Company

Moha softdrink industry share company

National Alcohols and quire Processing share company

Repi soap and detergent share company

Tikur Abay shoe Share Company

Appendix 5: Personal Inquiry Guiding Questions

Addis Ababa University
College of Business and Economics
Department of Accounting

I. Personal inquiry guiding questions for audit directors (officials) of audit firms

1. **Joint provision of Audit and Non-Audit service:** How significant is the income from Non-Audit fees from the total income of your firm in the years from 2010 to 2015?
2. **The percentage share of the manufacturing sector:** From the total number of audit clients from 2010 to 2015, what is the share of the manufacturing sector in your audit firm?
3. **Certified Audit Professionals:** What percentage do ACCA certified audit professionals constitute from the total employed auditors in your audit firm from 2010 to 2015?

Thank you!