



## **The Effect of Ownership Structure and Corporate Debt on Audit Quality: Evidence from Jordan**

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### **ABSTRACT**

This study investigates the effect of different ownership structure - (concentration, foreign, and institutional ownership) - and corporate debt on audit quality of listed companies in Amman stock exchange. The research has four hypotheses. To test each hypothesis; a model was defined based on dependent variables employed to measure audit quality. The sample study consists of 132 companies from 2005 to 2016. The analysis of logistic regression was used to investigate the relationship between the audit quality measured based on the audit firms size as a dependent variable, ownership structure and corporate debt as independent variables. The results provide evidence of positive statistically significant relationship between the audit quality and that of companies both with foreign and institutional ownership. Also, the results reveal a positive significant relationship between the corporate debt and audit quality. In addition, ownership concentration was shown to have a positive relationship with quality, that relationship was not significant. These results are consistent with prior empirical studies. Also, these results indicate that foreign and institutional investors tend to hire high quality auditors. This study helps academicians, regulators, investors, and auditors to have insight into the nature of ownership structure and is it possible for companies' ownership structures and corporate debt to influence audit quality?

**Keywords:** Audit Quality, Corporate Debt, Concentration Ownership, Foreign Ownership, Institutional Ownership

**JEL Classifications:** G32, M42

### **1. INTRODUCTION**

During the past few decades a number of researchers and experts in different fields such as accounting, law, business, and banks were interested in audit quality. Audit quality has become very important due to the role of an audit in enhancing the quality and reliability of financial statements. However, the financial crisis which has affected most of the world in the recent years has pushed up the demand for high quality audits. Fragher 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. Davidson and Neu (1993) mentioned that 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 can be a motive for deep research and insight in audit quality and the factors that may affect it.

Many factors affecting auditing quality have been investigated so far and a lot of researches have been carried out to identify the relationships between different financial variables and firms' accounting and their effects on the auditing quality. But the ownership structure and corporate debt as the effective variables in auditing quality have been ignored in Jordan. In the present study we will try to explore the effect of ownership structure and corporate debt on auditing quality to determine whether ownership structure has had any effects on auditing quality or not? Also, whether corporate debt has had any effects on auditing quality or not?

In recent years, audit quality was investigated heavily in different countries by many academicians and researchers. But this study seeks to:

- Explore the effect of the ownership structure-(concentration, foreign, and institutional ownership) - on audit quality of listed companies in Amman stock exchange.
- Explore the effect of the corporate debt on audit quality of listed companies in Amman stock exchange.

- Provide useful recommendations for stakeholders such as investors, managers and companies.

As far as we know this study is the first to investigate the effect of ownership structures and corporate debt on audit quality of listed companies in Amman stock exchange.

This study aims to clarify the relationship among ownership structure, corporate debt and audit quality used in Jordanian companies, and shows the effect of ownership structure and corporate debt on the audit quality in Jordan. Moreover, this study helps firms, investors, the governments and other related parties to fully understand the effect of ownership structure and corporate debt on the audit quality in Jordan. Thus, the main objectives of this study are:

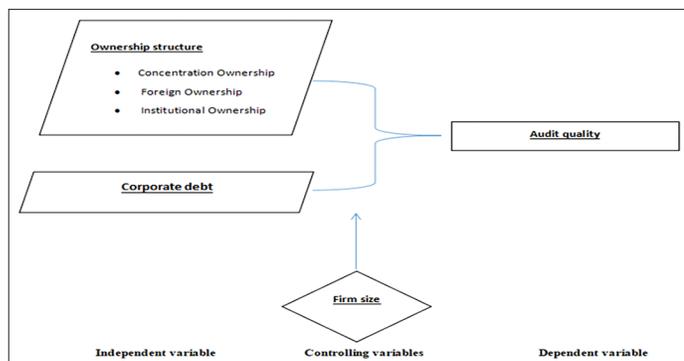
1. To investigate the relationship between percentages ownership of the institutional ownership and audit quality in Jordanian companies.
2. To investigate the relationship between percentages ownership of the foreign ownership and audit quality in Jordanian companies.
3. To investigate the relationship between percentages ownership concentrate and audit quality in Jordanian companies.
4. To investigate the relationship between corporate debt and audit quality in Jordanian companies.

As mentioned earlier, this research aims to examine the impact of ownership structure and corporate debt on audit quality, after taking into consideration the firm size (Figure 1).

This study tries to test the following four null hypotheses; in order to investigate the effect of ownership structure and corporate debt on audit quality.

- $H_{0,1}$ : There is no statistically significant relationship between ownership percentage of the institutional ownership and audit quality in Jordanian companies.
- $H_{0,2}$ : There is no statistically significant relationship between ownership percentage of the foreign ownership and audit quality in Jordanian companies.
- $H_{0,3}$ : There is no statistically significant relationship between ownership percentage of the ownership concentrate and audit quality in Jordanian companies.
- $H_{0,4}$ : There is no statistically significant relationship between corporate debt and audit quality in Jordanian companies.

**Figure 1:** Displays the theoretical proposed relation between the study variables



## 2. LITERATURE REVIEW

This section presents a selected survey of the earlier literature that discusses the impact of the institutional ownership and corporate debt on audit quality. Corporate governance, agency costs, ownership structure, debt holders and audit quality are presented as a heading for this literature review.

### 2.1. Corporate Governance

Corporate governance is a modern concept. It is quite difficult to find a single definition of this concept (Chul-kyu, 2006). Corporate governance (i.e.: Sets of rules). OECD (Organization of Economic Cooperation and Development) has provided the following definition for corporate governance which is characterized by inclusiveness and coverage of several aspects: "It is a set of relationships involving a company's management, administration board, shareholders and other stakeholders. Such relationships provide the structure through which the company's objectives can be set, the means to realize such objectives can be determined and performance can be monitored. Governance should provide appropriate and sound financial incentives for board members and the executive management to drive them to achieve the objectives which undoubtedly serve the company's and its shareholders' interests. The effective internal monitoring process, the existence of an effective governance system, within each company and in the economy as a whole, should facilitate the provision of a degree of confidence needed for the safety of the economy's action." Any taxonomy on corporate governance is based on eight variants one of these is Integration of shareholders, (Weimer and Pape, 1999). It is obvious that shareholder structure is one variable of corporate governance. However, (Karim et al., 2013) examine the impact of corporate governance on auditor quality and he found significant effect.

### 2.2. Agency Theory

Corporate governance has drawn this huge attention from different fields such as accounting, law, business, education and banks in both developed and developing countries because it has a direct effect on corporate power- in which it influences the decisions made by managers when there is a separation of ownership and control (i.e., agency problem). To move from individual ownership to collective ownership raised new problems in the field of financial resources management, so that (Berle and Means, 1932) considered the same as agency problem (Morey et al., 2008). However, (Watts and Zimmerman 1986) argue that the demand for higher quality audits increases as agency costs rise. Meanwhile, the effective corporate governance structures helped to prevent conflict between the directors and shareholders by making information conformity and balance.

### 2.3. Ownership Structure (Ownership Concentration, Foreign and Institutional Ownership)

Alshammari et al., (2014) investigate the effect of the corporate governance of Kuwaiti listed firms on the quality of the chosen joint audit, and how this may affect financial reporting quality. He found that bigger institutional and government ownership are positively associated with a higher quality joint audit. Also, found a negative association between the level of family ownership and quality of chosen audit pairs.

Azadi and Mohammadi (2014), investigate the relationship between institutional ownership and audit fees in 50 firms listed in Tehran stock exchange over a period from 2008 to 2012. He found that there is no a meaningful relationship between institutional ownership and audit fees.

Enofe et al., (2013) examined in their study “the determinants of audit quality in Nigerian business environment.” They found that “audit firm size, board independence and ownership structure were positively related to audit quality.

Pouraghajan et al., (2013) examined “the effect of ownership structure on audit quality of companies listed in the Tehran stock exchange. Regression model with cross-sectional data were used in the study. The study concluded that there is a positive and significant relationship between institutional ownership and audit quality.”

Gul et al. (2013), investigate the role of ownership structure and corporate governance in reducing earnings management. The results showed that a higher percentage of institutional, corporate, and managers ownership reduce the level of earnings management.

Zureigat (2011) examined in his study the impact of ownership structure among Jordanian listed companies on the Amman stock exchange on audit quality. The study indicated “a significant positive association between the audit quality and companies with both foreign and institutional ownership.” The study also revealed “that ownership concentration has a negative relationship with audit quality but not significant.”

Lukas (2009) found that ownership concentration has a negative impact on board independence.

Abdullah’s (2008) results indicated that there is a significant positive relationship between board independence and audit quality.

Chen et al. (2007) they found that audit quality is indeed deteriorated and compromised when an auditor faces a business of family-controlled clients.

#### 2.4. Debt Holders

The conflict of interest between the firm’s shareholders and bondholders has studied in prior literature (e.g., Jensen and Meckling, 1976). This conflict lead to a wealth transfer from bondholders to shareholders. To prevent this wealth transfer, debt covenants are established to solve this problem (Skinner, 1993; Deli and Gillan, 2000). However, a lot of managers attempt to make some accounting procedures that influence certain accounting numbers (e.g., earnings manipulation) to avoid or delay violating bond covenant restrictions (Haka and Chalos, 1990; Klein, 2002). Also, (Collins et al., 1981) found a negative relationship between the stock returns of companies changing accounting procedures and debt covenants.

Additionally, (Ali, 2013) show a positive link between corporate debt and industry specialization by auditors. For this reason, debt

holders may pressure management to employ auditors with higher quality to secure their rights. For example, (Fan and Wong, 2005) found when use large audit offices as a mean to reduce problems occurring between the firm’s management and shareholders. And, (De Fond et al., 2000) document Firms tend to employing auditors who have credibility, reliability of accounting disclosures and higher quality as their leverage rises. To help borrowing clients signal their credit quality and minimize their loans’ information risk (Mansi et al., 2004; Lennox and Pittman, 2011; Kim and Song, 2011). To enhance the assessment of the credibility of accounting information in bond covenants.

#### 2.5. Audit Quality

(DeAngelo, 1981) provided unique definition for audit quality as “auditors’ possibility to detect errors and to report deviations in the accounting system of the client.” Therefore, according to (DeAngelo’s 1981) definition, audit quality is a function of the auditor’s ability to detect material misstatements and reporting the errors. (Palmrose 1988) defines audit quality as “the probability that financial statements contain no material misstatements.” Nevertheless, (Knechel et al., 2013) note that there is little consensus among researchers regarding the definition of audit quality.

Several prior experts and researches investigated the indicators that can be used in audit quality measurement. However, the most important factor of audit quality is the ability of an auditor to detect and exclude errors and reducing the level of accounting information inconsistency between shareholders and management. For example, (Eisa, 2008) he found audited financial statements by highly qualified auditors and more credibility have less probability to include errors. Further, managerial and auditor incentives can lead to non-disclosure of identified misstatements (Srinivasan et al., 2015). But, (Rusmin, 2010; Ebraheem, 2016) studies relationship between auditor quality and the earnings management indicator and found a negative association. So, (Al-Momani, 2015), found a linear relationship between external audit quality and the quality of reported earnings.

Prior archival studies use numerous proxies for audit quality as group like input indicators and output indicators developed by (Bedard et al., 2010), another group of studies rely on audit process to measure audit quality (IAASB, 2011; Manita and Elommal, 2010; Maijoor and Vanstraelen, 2006; Libby and Luft, 1993; Taylor and Glezen, 1994) also, some group of studies divided as direct and indirect measure of audit quality.

A final classification method from the literatures is to divide proxies into direct measure groups and indirect measure groups (Chadegani, 2011, cited in Memis and Cetenak, 2012). Direct measures includes financial reporting compliance with GAAP, quality control review, bankruptcy, desk review and SEC performance are used as a measure of audit quality (e.g., Geiger and Raghunandan, 2002; Krishnan and Schauer, 2000; Dechow et al., 1996). The indirect includes audit office size; audit fees; client’s retention period; audit report type; auditor’s specialization are used as a measure of audit quality (e.g., Francis and Michas 2012; Lambert et al., 2014; Stanley and DeZoort, 2007; Carcello

and Nagy 2004; Francis et al., 1999; Lennox, 1999; Palmrose, 1998). The number of different proxies used to represent a single construct indicates a diversity of views among researchers regarding a reliable measure of audit quality. (Krishnan, 2003) explored the relationship between audit quality and pricing of discretionary accruals and used the most commonly used indirect measure of audit quality is office size. He found that higher audit quality is associated with big six auditors. Overall, the outcomes of (Krishnan, 2003) are the big six report lower amounts of discretionary accruals than non-big six. So, (Ebraheem, 2016) show earnings management lower among companies hiring a big 4 audit firm, as compared to companies utilizing the service of a non-big 4 audit firm. Following Krishnan study, many other studies empirically examine the relationship between office size and audit quality (e.g., De Fond and Zhang, 2014; Koh et al., 2013; Memis and Cetenak 2012; Skinner and Srinivasan 2012; Ahmed, 2012; Hamdan, 2012; Lawrence et al., 2011; Kanagaretnam et al., 2011; Chen et al., 2011; Chadegani, 2011; Al Jabr, 2011; Clinch et al., 2010; Al-Ajmi, 2009; Behn et al., 2008; Eisa 2008; Chaney et al., 2004; Francis, 2004; Krishnan and Schauer, 2000; Francis et al., 1999; Craswell et al., 1995; DeAngelo, 1981) used the indicator of large audit offices to measure audit quality and found the intuition is that big number auditors provide a higher quality audit.

### 3. RESEARCH METHODOLOGY

This study attempts to investigate the effect of ownership structure and corporate debt on audit quality in Jordan. So, methodology as the study title causal and from purpose point of view is application research. These types of researches are done to gain information about the relationship between variables. In other word researcher wants to know whether there is correlation between the two groups of information or not, and if there is any starts to evaluate the independent variable effect and the way it affects (positive or negative) the dependent variable.

#### 3.1. Sample and Data

Statistical society is selected from companies in Amman stock exchange in Jordan. Study period is the financial information of the companies' listed in Amman stock exchange from 2005 to 2016. So, all data about ownership structure, corporate debt and audit firms were collected from the annual reports for the listed companies.

The total number of companies listed in (ASE) at the beginning of 2005 was 263, this study excluded the banking sector, which consists of 18 listed banks because of the special regulations and instructions that govern them in Jordan, the remainder of listed companies was 245. The study sample consists of 132 companies that had the available data needed for the study which represents (53.87%) of the study population.

#### 3.2. Variables and Model

This study test the general null hypothesis; in order to investigate the impact of ownership structure and corporate debt on audit quality, in addition; this study test general null hypothesis piecemeal manner.

The general form of model is:

$$AQ = \beta_0 + (\beta_1 * \%IO) + (\beta_2 * \%FO) + (\beta_3 * \%CO) + (\beta_4 * \%DEBT) + (\beta_5 * \text{Log SZ}) + \epsilon$$

Where:

AQ: Audit quality.

CO: Ownership concentrate.

FO: Foreign ownership.

IO: Institutional ownership.

DEBT: Corporate debt.

SZ: Firm size.

$\beta_0$ : Is the constant.

$\beta$ : The coefficient of the independent variables (explanatory variables).

$\epsilon$ : Residual.

The dependent variable AQ, were measured, as mentioned earlier, by the audit firm size, so the audit quality is coded (1) when the company is audited by one of the big 4 audit firms, and zero otherwise (Kane and Velury, 2004; Abdullah, 2008). Variables related to the ownership structure were captured directly from the annual reports for the samples' companies. The ownership concentration was measured as the total percentage of shares owned by investors who owned more than (5%) of the total company shares, foreign ownership was measured as the percentage of the total shares owned by non-Jordanian investors in the company, institutional ownership was measured by the percentage of the total shares owned by institutions. Also, corporate debt (DEBT) is measured by total liabilities scaled by total assets. Moreover, the study model has one control variable which is company size. Testing this variable is not one of the study goals, but choice this variable is quite similar to empirical studies. So, the size of companies in this study were measured by the natural logarithm of total assets (Dong and Zhang, 2008).

### 4. ANALYSIS AND RESULTS

#### 4.1. Descriptive Analysis

Table 1 shows that companies constitute 77% of the sampled companies were audited by big 4 audit firms, whereas companies audited by local audit firms were 33% of the sample. The mean of the ownership concentration is 60.33%, which indicates that many of shares owned by big investors who own more than 5% of the companies' shares in Jordan. This percentage will give big investors a great power in managing and controlling these companies.

#### 4.2. Analysis of Logistic Regression

Before analyzing the logistic regression, the a test of multicollinearity has been examined as used by Hoyt and Khang (2000), in order to test the high correlation between independent variables if they exist, shown by the multicollinearity statistics test in Table 2, multicollinearity would be a problem if we have tolerance approach zero and VIF (variance inflation factor) approach 10, please see Neter et al. (1990). The table shows good indicators that multicollinearity is not a problem among independent variables.

Logistic regression was chosen to test the hypothesis of the study because the dependent variable is binary which is more suitable for such type of research. The result show in Table 3 that there is significant and positive relationship between institutional ownership and audit quality -measured by audit firm size. The result of this hypothesis is consistent with prior studies such as Sharma (2004); Kane and Velury (2004); Chan et al. (2007); Mitra et al. (2007); Abdulla (2008); Adeyemi and Fagbemi (2010); Al-Mutairi (2013), Zureigat (2013); Pouraghajan et al. (2013); Alshammari et al. (2014); Hanish (2015) and Seyedeh et al. (2016) where they found significant and positive relationship between institutional ownership and audit quality.

H<sub>0,1</sub>: There is no statistically significant relationship between institutional ownership on audit quality.

$$AQ = \beta_0 + (\beta_1 * \%IO) + (\beta_2 * \text{Log SZ}) + \epsilon$$

The result show in Table 4 that there is significant and positive relationship between foreign ownership and audit quality -measured by audit firm size. The result of this hypothesis is consistent with prior studies such as Wei et al. (2005); Abdulla (2008); Lucas (2009); Azibi et al. (2011); Zureigat, (2011); and Pouraghajan et al. (2013) where they found significant and positive relationship between foreign ownership and audit quality.

H<sub>0,2</sub>: There is no statistically significant relationship between foreign ownership on audit quality.

$$AQ = \beta_0 + (\beta_1 * \%FO) + (\beta_2 * \text{Log SZ}) + \epsilon$$

The result show in Table 5 that there is positive relationship between ownership concentration and audit quality -measured by audit firm size, but not significant at  $P \leq 0.05$ . The result of this

hypothesis is inconsistent with prior studies such as Chen et al. (2007); Lukas (2009); Zureigat (2011); Alshammari et al. (2014) and Seyedeh et al. (2016).

H<sub>0,3</sub>: There is no statistically significant relationship between ownership concentration on audit quality.

$$AQ = \beta_0 + (\beta_1 * \%CO) + (\beta_2 * \text{Log SZ}) + \epsilon$$

The result show in Table 6 that there is significant and positive relationship between corporate debt and audit quality -measured by audit firm size. The result of this hypothesis is consistent with prior studies such as Dhaliwal et al. (2008); Causholli and Knechel (2012); Huguet and Gandía (2012); Al-Mutairi, (2013) where they found significant and positive relationship between corporate debt and audit quality.

H<sub>0,4</sub>: There is no statistically significant relationship between corporate debt on audit quality.

$$AQ = \beta_0 + (\beta_1 * \%DEBT) + (\beta_2 * \text{Log SZ}) + \epsilon$$

## 5. CONCLUSION AND RECOMMENDATIONS

This study aims to investigate the impact of ownership structure -as one of the important characteristics of corporate governance- and corporate debt on audit quality in Jordan. Focusing on ownership concentration, foreign ownership and institutional ownership as main components for ownership structure in Jordan, and audit firm size as a proxy for audit quality, four hypotheses were developed to suggest an effect of ownership structure and corporate debt on audit quality whether positively or negatively. The findings show that both foreign ownership and institutional ownership are important factors for Jordanian listed companies in selecting auditors, which indicate that companies tend to hire high quality auditors when the percentage of foreign and institutional ownership increased. In other words, institutional and foreign investors prefer the choice of specialist auditors.

The analysis shows that ownership concentration has a positive relationship with audit quality, but this relation was not significant, this finding may be due to the nature of the concentrated ownership in the Jordanian companies, because a lot of them are family owned companies.

The results show that there is a significant positive relationship between corporate debt and audit quality at the 5% level of significance. Thus, the study recommends the company to take advantage of this positive impact of the existence of debt in the company's capital structure and audit quality by maintaining this

**Table 1: Descriptive statistics**

Variables	n	Minimum	Maximum	Mean±SD
AQ	1584	0	1	0.77±0.418
IO	1584	0.0000	0.9882	0.424740±0.2691354
FO	1584	0.0000	0.9876	0.053920±0.1346864
CO	1584	0.0554	0.9992	0.603395±0.2222814
CD	1584	0.0027	0.9990	0.365655±0.2375142
SIZE	1584	12.89	21.31	16.9802±1.36788

SD: Standard deviation

**Table 2: Multicollinearity statistics test**

Variables	Tolerance	VIF
IO	0.689	1.452
FO	0.869	1.151
CO	0.691	1.447
CD	0.920	1.087
SIZE	0.851	1.175

**Table 3: The results of the first hypothesis for independent (IO) and control variable**

Variables	Coefficients	SD	Wald test	Degree of freedom	Significance
Y-intercept	-0.178	0.756	0.055	1	0.814
IO	0.576	0.222	6.755	1	0.009
SIZE	0.098	0.044	4.877	1	0.027

SD: Standard deviation

**Table 4: The results of the second hypothesis for independent (FO) and control variable**

Variables	Coefficients	SD	Wald test	Degree of freedom	Significance
Y-Intercept	1.307	0.817	2.562	1	0.109
FO	6.644	1.272	27.300	1	0.000
SIZE	-0.017	0.049	0.123	1	0.726

SD: Standard deviation

**Table 5: The results of the third hypothesis for independent (CO) and control variable**

Variables	Coefficients	SD	Wald test	Degree of freedom	Significance
Y-intercept	-0.493	0.779	0.401	1	0.526
CO	0.208	0.272	0.585	1	0.444
SIZE	0.095	0.045	4.484	1	0.034

SD: Standard deviation

**Table 6: The results of the fourth hypothesis for independent (CD) and control variable**

Variables	Coefficients	SD	Wald test	Degree of freedom	Significance
Y-Intercept	0.226	0.771	0.086	1	0.769
CD	1.520	0.288	27.919	1	0.000
SIZE	0.029	0.047	0.385	1	0.535

SD: Standard deviation

external option of financing open for future financial needs.

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