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# Ownership Structure, Capital Structure, and the Audit Committees' Effectiveness: Evidence from Jordan

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## Abstract

The main purpose of this research is to investigate the impact of capital structure and ownership structure on the audit committee effectiveness. To achieve the objectives of the study, a sample of 82 service and industrial firms that have been listed on Amman stock exchange (ASE) during the years 2014 to 2018 with a 388 observation is used. Descriptive statistics and multiple regression analysis are used to analyze the data and test the hypotheses. Audit committee's index is calculated using many variables including the independence of the committee, the independence of its chairman, knowledge and expertise of its members, size of the audit committee and frequency of meetings.

The study results revealed that there is a negative significant impact for the concentrated ownership and managerial ownership on the audit committee effectiveness, whereas the institutional and the foreign ownership don't show a significant impact. The results also revealed that there is a positive significant impact for the capital structure on the audit committee effectiveness.

The study concentrated on non-financial sectors, the financial sector was excluded from this research sample due to the specific regulation and the specific characteristics related to it. The study results direct the attention of the decision-makers to take the appropriate measures that can improve the effectiveness of the audit committees and in turn help in reserving the interests of the various investing groups.

The research significance stems from its expected contribution and practical implications in the improvement of audit committee effectiveness. It also holds a theoretical significance as a pioneer study, up to the knowledge of the researchers, which investigates the impact of ownership structure and capital structure on the audit committee effectiveness in the Jordanian context.

**Keywords:** audit committee, effectiveness of audit committee, capital structure, ownership structure, non-financial firms.

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## I. INTRODUCTION

Over the years, researchers (Arora & Sharma, 2016; Kituku & Ahmad, 2016; Al-Thuneibat, 2018; Osemene & Fakile, 2018; Talab et al., 2018; Alkilani, 2019; Al-Musali et al., 2019; Ojeka et al., 2019; and Oroud, 2019) investigated various issues related to corporate governance requirements and tools. Likewise, the audit committee was recognized as one of the main tools of corporate governance (Kituku & Ahmad, 2016; Al-Musali et al., 2019), and a better audit committee is recognized as a one of the important mechanisms of the controlling process (Samaha et al., 2015; Kituku & Ahmad, 2016). Therefore, the role of the audit committees has become under higher levels of scrutiny and considerable pressures have been intensified to enhance their effectiveness

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(Gramling et al., 2004), and improve their oversight over various corporate issues (Sarens & Abdolmohammadi, 2010; Al-Musali et al., 2019) including risk management, control, financial reporting, and governance systems.

The audit committees' effectiveness, in specific, is an issue among the topics that should be given a great attention by legislators, stakeholders and researchers (Soliman & Ragab, 2014; Dobija, 2015; and Kituku & Ahmad, 2016) as they oversee the external and internal audit and provide independence in communication and oversight relating to the audit process. That is, any problem in the committee's efficiency will be reflected on the corporate governance effectiveness in general (Lee et al., 2004; Turley & Zaman, 2004; and Al-Musali et al., 2019).

The audit committee is one of the board's committees that are designed to support boards and perform specific responsibilities (Dobija, 2015), and help in the understanding of how management develops internal financial information to evaluate whether reports are complete and accurate (Soliman & Ragab, 2014). The committee also evaluates audit plans and oversee the organization of the audit effort with internal audit employees (Ika & Ghazali, 2012). Kituku and Ahmad (2016) concluded that the impact of the audit committee knowledge, expertise, independence, size, and frequency of meetings on the audit committee effectiveness is significant.

Many researchers (Achchuthan & Kajanathan, 2013; Al-Zwyalif, 2015; Bhardwaj & Rao, 2015; and Arora Sharma, 2016) argued that governance mechanisms interact with each other to help ensuring the reliability of financial reporting and achieving efficiency and effectiveness of all activities of an entity. Moreover, the capital structure and ownership structure are important tools of governance. These tools should play an important role in improving performance and control and reducing all types of risks (Zheka, 2005). King and Santor (2007) argued that there are many factors including managers' risk aversion, the costs of monitoring and bankruptcy, the growth opportunities of the firm, and the threat of takeovers influence the relationship between ownership structure and capital structure.

Ownership structure and capital structure play an important role in corporate governance as they are considered as basic control mechanisms over agency costs (Kumar, 2003). Hu and Izumida (2008) stated that the ownership structure is an important instrument for corporate governance to reduce the conflict of interests between external users and corporate managements. Researchers concentrated on ownership structure as one of the important elements when investigating the role of corporate governance in various corporate issues (Bushee, 1998; Chung et al., 2002; Bjuggren et al., 2007; and Zhang, 2017).

Even though the corporate governance, in general, and these topics in specific, have resulted in the publication of many research projects, they are still attractive topics to researchers especially in the developing countries. Many researchers agree on the significance of corporate governance research (Shanikat & Abbadi, 2011; Al-Zwyalif, 2015; and Arora & Sharma, 2016), however, they added that there are gaps still in its substantial implementation, particularly in the developing countries. Therefore, they recommended future researchers to consider the impact of ownership structure in other countries. Moreover, although ownership structure, capital structure and other controlling mechanisms, including the audit committee effectiveness have been hot topics for decades, scholars have not reached an agreement with the associations between these issues and their determinants.

The literature review revealed that there are many views about the relationship between these corporate governance issues. For example, on the first hand, Al-Musali et al. (2019) concluded that family, government, and institutional ownership, in addition to board independence, all have significant positive association with its effectiveness, and they serve as a complement to the committees' effectiveness. Similarly, Feldmann and Schwarzkopf (2003) stated that increased institutional ownership is positively associated with a higher proportion of outsiders on the board and audit committee, therefore, institutional ownership may play an important role in corporate governance structure.

However, on the other hand, Méndez and García (2007) show that the relationship between managerial stock ownership and the activity of the audit committee is negative for stakes under 30%, which means that the increase in managerial ownership may result in the preference of ineffective audit committee. Similarly, the findings of Desender et al. (2018) study highlighted the possibility of different patterns of corporate governance within one country, shaped by the weight of foreign owners, therefore, we may find contradictory findings. For example, Kwarbai (2020) argued that ownership concentration may have no efficient monitoring by large owners. Similarly, researchers stated that companies with weak governance mechanisms are characterized to have block holders (Lin & Liu, 2009), and the concentrated ownership permits the managers to gain benefits at the cost of minority shareholders (Mehrotra et al., 2013). These contradictory views suggest that the ownership structure must be considered in examining

Therefore, the main problem of this study is to investigate the audit committee effectiveness in Jordan, as a developing country, and how ownership structure and capital structure can improve it. According to the researchers' knowledge, this study is expected to be one of the pioneer studies that treat ownership structure and capital structure as independent variables and the audit committee effectiveness as a dependent variable. This is an empirical study that investigates the impact of ownership structure and capital structure together within the Jordanian context. It is expected that the results of this study will help managers and policymakers to improve audit committees' effectiveness.

## **II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1. Audit Committee Effectiveness**

Audit committees are considered as the most significant lately development in the corporate governance structure (Adeyemi & Uadiale, 2011; Velte, 2017). The primary goals behind forming the audit committee are to increase auditing quality and reduce the questioning of the directors (Carcello et al., 2011; Sun et al., 2014), and provide valuable indicators regarding financial reporting process, the audit process, the company's system of internal control and the agreement with laws and regulations (Ika & Ghazali, 2012; Sun et al., 2014; and Sultana et al., 2015). An audit committee acts as a mediator to guide in case of any disputes between the external auditors and the management as well (Klein, 2002; Adhikary & Mitra, 2016; and Agyei-Mensah et al., 2019).

An audit committee, to be effective, must be independent of the management, qualified, have appropriate size and have a specific number of meetings (Sun et al., 2014; Sultana et al., 2015). The audit committee must be independent to attain transparency and information symmetry and to perform oversight roles and protect the shareholders' interests accordingly (Beasley et al., 2009; Agyei-Mensah et al., 2019; and Al-Musali et al., 2019). It is argued that if the audit committee members are independent of owners and management, then they ought to be able to deter the management from manipulating any financial results (Alkdai & Hanefah, 2012; Dao et al., 2015). In Jordan, the audit committees ensure auditors' independence and ensure that there is no conflict of interest

with the top management. The Jordanian corporate governance code stressed on the non-existence of family relationship and non-holding executive position by the members of the committee to enhance the committee's independence. Additionally, the chairperson of the committee must not be an executive person (Contessotto & Moroney, 2014).

Likewise, an effective audit committee relies on experienced members who have the relevant knowledge to be able to exercise their oversight role. The arguments presented by researchers (Shamsuddin & Kim, 2003; Chukwunedu et al., 2014; and Bhardwaj & Rao, 2015) indicated that members of the committee must have a deep understanding of the firm's operations to be able to carry out their oversight duties and in turn have a primary influence on the overall internal control of the firm. In Jordan, the Jordanian corporate governance code indicates that the members of the committee need to be qualified by holding certificates in accounting or finance fields to be able to understand any fraud, earning quality or corruption issues.

Another important determinant of the audit committee effectiveness is its size. However, a main concern that should be considered in judging the size of the committee is that the larger size of an audit committee may not necessarily result in a better performance because the larger size may cause unnecessary delay and debates in their decisions (Lin et al., 2015). Moreover, the size of audit committee is mainly correlated to the boards' size. Some empirical literature concluded that the average size is ought to be between three to five (Kituku & Ahmad, 2016). Additionally, the best practices indicate that the three members at least shall provide the necessary expertise especially for the oversight functions, and to be effective, an audit committee must have a frequency of meetings (Bedard & Gendron, 2005; Lin et al., 2015). The Jordanian corporate governance code also indicates that the size of the committee is medium in comparison to the board size and the number of members shall be between three to five members, and it must have at least one meeting each quarter.

Talking about the above-mentioned dimensions of the audit committees' effectiveness raises several questions about the factors that affect these dimensions and elements and improve the committees' effectiveness. However, since the audit committee is one of the most mechanisms of governance, this study will deal with some of the governance mechanisms related to the audit committee. Researchers argued that governance mechanisms interact with each other to help ensuring the reliability of financial reporting and achieving efficiency and effectiveness of all activities of an entity (Achchuthan & Kajanathan, 2013; Al-Zwyalif, 2015; Bhardwaj & Rao, 2015; Arora Sharma, 2016; and Sartawi & Shrouf, 2017).

However, the literature on the effect of capital structure and ownership structure on the audit committees' effectiveness as one model is distinguished by its scarcity. Most studies related to audit committees concentrated on the role of audit committees on various corporate issues, including the relationship between the audit committee characteristics (size, independence, meeting and financial expertise) and the financial performance, earnings management, auditors' opinions, and the determinants of the audit committees' effectiveness in general (Adel & Maissa, 2013; Beck & Mauldin, 2014; Contessotto & Moroney, 2014; Sun et al., 2014; Dao et al., 2015; Haji, 2015; Sultana & van der Zahn, 2015; Sultana et al., 2015; and Velte, 2017). Therefore, this study will concentrate on the role of ownership structure and capital structure in improving the effectiveness of the audit committee.

## 2.2. Ownership Structure

The ownership structure is defined as the spread of equity in terms of votes and capital (Al-Thuneibat, 2018), in other words, it refers to the allocation of ownership according to the voting rights and corporate capital and reflects the identity of shareholders (Jensen & Meckling, 1976). Ownership structure is often thought as an important instrument for corporate governance to resolve the conflict of interests between shareholders and managers (Hu & Izumida, 2008; Hamadi & Heinen, 2015). There are many research studies dealt with ownership structure, its determinants, types, its relationship with capital structure, its impact on performance, its impact on earnings management, its impact on audit fees and so on (for example, Abu-Serdaneh et al., 2010; Achchuthan & Kajanathan 2013; Al-Thuneibat, 2018; and Al-Musali et al., 2019).

Ownership structure is one of the important governance mechanisms that aligns the interest of shareholders and managers (Mardnly et al., 2018). Widani and Bernawati (2020) added that effective corporate governance motivates management to implement corporate governance principles in an effective manner. Likewise, other researchers (AlQadasi & Abidin, 2018; Awadallah, 2018) provide empirical evidence that the effectiveness of corporate governance has a positive effect on audit quality and control mechanisms, that is, shareholders are expected to be able to carry out a good supervision process that helps in an implementation of effective corporate governance (Demsetz & Villalonga, 2001; Al-Thuneibat et al., 2011). Moreover, Al-Musali et al., (2019) concluded that that family, governmental and institutional ownership, in addition to board independence, all have significant positive association with audit committee's effectiveness,

Based on the above discussion, we start setting the first main hypothesis regarding the impact of ownership structure on the audit committee effectiveness and then divide it into four sub-hypotheses related to the various types of ownership:

**H<sub>01</sub>**: there is no statistically significant impact for the ownership structure on the audit committee effectiveness of Jordanian nonfinancial firms.

An important form of ownership structure is the institutional ownership. This form is highly correlated to many organizational concerns such as the corporate performance (Abu-Serdaneh et al., 2010). It is argued that the institutional investors have a better contribution in establishing the corporate governance systems as they have higher power and incentives to effectively monitor and force the management to maximize the shareholders' wealth more than other ownership forms (Chau & Leung, 2006; Zureigat, 2011). Moreover, Feldmann and Schwarzkopf (2003) stated that increased institutional ownership is positively associated with a higher proportion of outsiders on the board and audit committee, therefore, institutional ownership may play an important role in corporate governance structure. likewise, from another perspective, Han et al. (2013) argued that long-term institutional investors demand higher quality audits to enhance corporate monitoring, and that short-term institutional ownership is positively associated with higher audit risk, therefor, institutional investors can influence corporate policy to employ governance mechanisms that reduce their monitoring costs. The investors are commonly demanding high controlling and audit quality as an adequate monitoring mechanism (Al-Najjar, 2015). This means that institutional investors are more likely to be involved in corporate matters monitoring, which would result in enhancing the role of the audit committee (Al-Musali et al., 2019). Based on these arguments the first sub-hypotheses will be tested in this study is:

**H<sub>01.1</sub>**: there is no statistically significant impact for the institutional ownership on the audit committee effectiveness of Jordanian nonfinancial firms.

Another form of ownership is the managerial ownership. Jensen and Meckling (1976) stated that managerial ownership is an important medium for reducing agency conflict, that is, the increase in managerial ownership is expected to increase the probability of reducing management manipulations to satisfy their own interests. Achchuthan and Kajanathan (2013) stated that to solve conflict of interest between managers and shareholders, agency theorists suggest that top management should have a considerable ownership of the company. However, researchers (Talab et al., 2018; Al-Musali et al., 2019) stated that the higher extent of managerial ownership is negatively correlated to the extent of board's monitoring over the senior management activities. Additionally, Méndez and García (2007) show that the relationship between managerial stock ownership and the activity of the audit committee is negative for stakes under 30%. Additionally, Savitri et al. (2020), stated that managerial ownership does not affect the selection of qualified external auditors, while the effectiveness of the audit committee influences the selection of qualified external, which implies that the increase in managerial ownership may result in the preference of ineffective audit committee. Based on these views we set the following hypothesis:

**H<sub>01.2</sub>:** there is no statistically significant impact for the managerial ownership on the audit committee effectiveness of Jordanian nonfinancial firms.

Agrawal and Knoeber (1996) stated that foreign investors take into consideration the effectiveness of corporate governance practices as a bundle in their investment decisions. However, foreign ownership is characterized by its geographic distance from corporate managements, which may increase the management freedom in carrying the activities of the company in a manner that stresses their own interests (Gurbuz & Aybars, 2010). Viet (2013) found that foreign investors disfavor firms with high concentration of ownership that relates to image of weak corporate governance, which implies that foreign investors prefer strong control and therefore encourage audit committee effectiveness. Therefore, from another perspective, researchers (Shan, 2012; Khasharmeh and Joseph, 2017) found that there is a positive and significant association between audit quality and foreign ownership. This means that, the better foreign investments demand attendance and active role of strong monitoring mechanisms, and therefore effective audit committee. Shubita and Shubita (2019) concluded that the existence of foreign ownership improves the quality of corporate governance. However, the findings of Desender et al. (2018) study highlighted the possibility of different patterns of corporate governance within one country, shaped by the weight of foreign owners, therefore, we may find contradictory findings. Based on these arguments we set the following hypothesis:

**H<sub>01.3</sub>:** there is no statistically significant impact for the foreign ownership on the audit committee effectiveness of Jordanian nonfinancial firms.

Similarly, the concentrated ownership was considered by researchers as an important mechanism of controlling. It is an important internal instrument of corporate governance and considered as a governance mechanism in which the owners can control or influence the managers' activities (Hamadi & Heinen, 2015). Moreover, it is argued that ownership concentration provides better monitoring and increase transparency (Demsetz & Villalonga, 2001; Fan & Wong, 2002). Additionally, Widani and Bernawati (2020) concluded that the presence of ownership concentration strengthened the effectiveness of corporate governance. In a similar vein, Al-Musali et al. (2019) found that companies with higher level of family ownership, are more likely to have effective audit committee. However, from another perspective, AlQadasi and Abidin (2018), argued that companies with a higher concentration of ownership are less likely to demand extensive auditing, that is, the ownership concentration plays a minor role in the positive

association between internal corporate governance and audit quality. Moreover, Kwarbai (2020), argued that ownership concentration may have no efficient monitoring by large owners. Similarly, researchers stated that companies with weak governance mechanisms are characterized to have block holders (Lin and Liu, 2009), and the concentrated ownership permits the managers to gain benefits at the cost of minority shareholders (Mehrotra et al., 2013). These contradictory views suggest that the ownership structure must be considered in examining the effectiveness of corporate governance. Therefore, the fourth sub-hypothesis will be tested in this study is:

**H<sub>01.4</sub>:** there is no statistically significant impact for the concentrated ownership on the audit committee effectiveness of Jordanian nonfinancial firms.

**2.3. Capital Structure**

The capital structure choice has been an issue of great interest in the corporate governance literature (Al-Thuneibat, 2018; Mardnly et al., 2018; Widani & Bernawati, 2020). It is recognized that the cost of capital and its availability are affected by the mix of funds (Detthamrong et al., 2017). An ideal capital structure term may be defined as that mix the debt and capital, which can maximize the value of any company (Thiruvadi, 2018). However, the presence of an ideal capital structure isn’t acknowledged by all (Al-Musali et al., 2019). Researchers found that the control risk influences the debt, therefore, the likelihood of bankruptcy increases (Mishra & Mcconaughy, 1999; Ellul, 2010). However, because of the imposed agency problem, the impact of capital structure on controlling mechanisms including the audit committee effectiveness is questionable, therefore, there is a need for companies to find a suitable capital structure, consisting of suitable proportion of debt and capital. Adhikary and Mitra (2016) stated that creditors usually demand audit committee independence when they inject more debts to the firms to impede managements from manipulating earnings, therefore, they added, as the firm’s financial leverage increases, the creditors demand for effective monitoring mechanisms. Based on these views we set the following second hypothesis:

**H<sub>02</sub>:** there is no statistically significant impact for the capital structure on the audit committee effectiveness of Jordanian nonfinancial firms.

**III. RESEARCH METHODOLOGY**

**3.1. Population and Sample**

The population of this study covers Jordanian nonfinancial firms (industrial and service firms) listed on the Amman stock exchange (ASE) during the period 2014 till 2018. The financial firms will not be covered because they apply different CG code. In the measurement section as appears below, the study will distinguish between the two sectors in the coding as well. All firms should also satisfy the following conditions:

- 1) The financial year of the selected firm ends by 31/12.
- 2) The annual reports of the firm are available.
- 3) The annual reports disclose all required information needed to measure the study variables.

In conclusion, the study sample covers 35 service firms and 47 industrial firms (82 firms as a total) that were continuously listed in the study period (ASE, 2019). The sample will cover only the firms that satisfy the above conditions, so (14) industrial firms and (2) service firms, were excluded from the study sample.

Model of the study and its explanation:

$$ACE\ Score_{it} = \alpha + \beta_1 Ins\_OS_{it} + \beta_2 Man\_OS_{it} + \beta_3 For\_OS_{it} + \beta_4 Con\_OS_{it} + \beta_5 Cap_{it} + \beta_6 Ind_{it} + \beta_7 Size_{it} + \beta_8 ROA_{it} + e_{it} \dots\dots\dots 1$$



Where:

ACE Score: audit committee effectiveness score. The score is calculated as the result of the value of the independence of audit committee + the independence of the audit committee chairman + the size of audit committee + the members' expertise + the audit committee meetings.

Ins\_OS<sub>it</sub> : institutional ownership.

Man\_OS<sub>it</sub> : managerial ownership.

For\_OS<sub>it</sub> : foreign ownership.

Con\_OS<sub>it</sub> : concentrated ownership.

Cap<sub>it</sub> : leverage

ROA<sub>it</sub> : return on assets (net profit after tax/total assets).

Ind<sub>it</sub> : industry type.

Size : firm size<sub>it</sub>.

### 3.2. Variables Measurement and Operational Definitions

To achieve the objectives of this research, the variables will be measured as follows:

#### 3.2.1. Independent variable (ownership structure)

The ownership structure refers to the allocation of ownership according to the voting rights and corporate capital and reflects the identity of shareholders. This study concentrates on four dimensions of ownership structure including the institutional, managerial, foreign, and concentrated ownership. The percentage of the ownership of each dimension will be taken from the annual reports. The operational definitions are presented in Table 1.

#### 3.2.2. Independent variable (capital structure)

Capital structure refers to a company's mix of capital, which consists of a combination of debt and equity used by a company to fund its ongoing operations and continue as a going concern. In this study the leverage will be used as a measure of the capital structure and it will be measured by dividing total liabilities by the total assets

#### 3.2.3. Dependent variable (audit committee effectiveness)

Many characteristics must be considered to measure an audit committee's effectiveness including independence, qualifications and experience, and frequency of meetings. In this study the audit committee effectiveness will be measured according to (DeFond et al., 2005; Al-Musali et al., 2019), who implemented a score resulted from the sum values of five items. The higher the score value the better the effectiveness, and each one of the items have either the value of 0 or 1. The below rules are derived from the Jordanian CG code. The dimensions are:

- (1) The independence of audit committee: if all committee members are independent (Non-executive) the value then is 1, otherwise, it will be 0.
- (2) The independence of the audit committee chairman: the chairperson must not be an executive person. If this is the case then the variable value is 1, otherwise, it will be 0.
- (3) The size of audit committee: If the size of the committee equals 50% of the board size then value is 1, otherwise, it will be 0.
- (4) The expertise in finance: If all members of the committee have a certificate in accounting or finance then the variable value is 1, otherwise, it will be 0
- (5) The audit committee meetings: If the number of the annual meetings is 4 or more it will be assigned a value of 1, otherwise, it will be 0.

#### 3.2.4. Control variables

Firm size : the natural logarithm of the book value of the total assets of the company.

Industry type: which is either service or industry firm.

Profitability : measured as the return on assets (ROA).

**Table 1**  
**Definitions Measurements of the Study Variables**

Variable	Dimension	Description	Reference
<b>Ownership structure</b>	Institutional Ownership	Percentage of the institutional ownership of the ordinary shares held by institutional investors.	Al-Musali et al. (2019)
	Managerial Ownership	Percentage of the managerial ownership of the ordinary shares held by_BOD.	
	Foreign Ownership	Percentage of the foreign ownership of the ordinary shares held by foreign parties.	
	Concentrated Ownership	Those who own 5% or more from the stock.	
<b>Capital structure</b>	Capital Structure	Leverage is measured by dividing total liabilities by the total assets	Alsaeed (2006)
<b>Control variables</b>	Industry Type	0 for industrial sector and 1 for service sector	Akhtaruddin and Haron (2010)
	Firm Size	The natural logarithm of the book value of the total company assets	
	Profitability	Measured as the return on assets (ROA).	
<b>Dependent Variable</b>	Independence of Audit Committee	if all committee members are independent (Non-executive) the value then is 1, otherwise, it will be 0.	Al-Musali et al. (2019) and Agyei-Mensah et al. (2019)
	Independence of the Committee Chairman	If the chairperson is independent then the variable value is 1, otherwise, it will be 0	
	The Size of Committee	If the size of the committee is 50% of the board size then is 1, otherwise, it will be 0.	
	The Expertise in Accounting or Finance	If all members hold certificate in accounting or finance then the variable value is 1, otherwise, it will be 0	
	The Audit Committee Meetings	The number of audit committee meetings, if the committee holds at least four meetings a year, then the variable value is 1, otherwise, it will be 0	

## IV. RESULTS AND DISCUSSIONS

### 4.1. Analysis and Empirical Results

The descriptive analysis is used to provide key insights and short summary about the sampled firms and data measures, the descriptive statistics include the minimum value, the maximum value, mean, and the standard deviation value to show the data spreading, also the mean value to reflect the best representation of the observations. Table 2 shows the descriptive statistics for the service sector, and Table 3 shows the descriptive statistics for the industrial sector.

As appears from Table (2), the mean value of the capital structure measured by the leverage is 34% revealing that, about one-third of the fund that the sampled service firms financing comes from the debt. In more details, firms tend to look for saving the cost of the fund and take the benefits of the tax shield. The minimum value of the observations is limited to 1.3%. However, the maximum dependency on the debt reached

91%. The standard deviation value shows harmony across the observations as most of the firms prefer the most cost-effective source to capitalize their future projects and assets even it is risky.

**Table 2****Descriptive Statistics for the Services Sector**

Descriptive Statistics for the Services Sector					
	Obs.	Mean	St. Dev.	Min.	Max.
<b>Capital structure</b>	168	.340	.081	.013	.910
<b>Institutional Ownership</b>	168	.291	.168	.00	.731
<b>Managerial Ownership</b>	168	.145	.093	.00	.840
<b>Foreign Ownership</b>	168	.067	.089	.00	.620
<b>Concentrated Ownership</b>	168	.617	.216	.0564	.920
<b>The Independence of Audit Committee</b>	168	.820	.379	.0	1.0
<b>The Independence of Committee Chairman.</b>	168	.853	.340	.0	1.0
<b>The Size of Audit Committee</b>	168	.365	.128	.0	1.0
<b>The Expertise in Finance</b>	168	.690	.459	.0	1.0
<b>The Audit Committee Meetings</b>	168	.832	.369	.0	1.0
<b>Audit Committee Effectiveness (Score)</b>	168	3.611	1.096	.0	5.0
<b>Firm Size</b>	168	7.678	.633	5.825	9.337
<b>Total Assets</b>	168	47643099	42954	668344	2172701179
<b>Profitability (ROA)</b>	168	.0228	.0654	-.401	.120

The second independent variable is the ownership structure, which is operationalized into four dimensions, namely, the institutional ownership with a mean value of (29.1%), the managerial ownership with a mean value of (14.5%), the foreign ownership with a mean value of (6.7%) and the concentrated ownership with a mean value of (61.7%). Across all ownership sorts, the highest mean value is for the concentrated ownership, and the least form of ownership structure is for the foreign ownership structure; this could be justified due to high taxes and lack of flexible laws to motivate external investors to expend their activities in the Jordanian market.

However, the standard deviation values across the ownership structure components show that the highest variation is in the ratios of concentrated ownership. These values mean that there is a lack of harmony across the service firms in this sort of ownership because it may be not preferable and brings conflict to the governance rules. Moreover, these values may reflect the worries of these firms to be owned by their competitors. The same is concluded for the foreign ownership since not all firms have external owners due to privatization regulations and the fluctuations in the stability of investment environment in Jordan.

The audit committee effectiveness as a dependent variable is operationalized into five dimensions; as appears from the table, the mean value of the independence of the audit committee is .82/1 of the sampled audit committees, with a variation of (about .37/1). The same is determined for the independence of the audit committee chairman, where the mean value is about .85/1. The size of the audit committee mean value shows

that .365 of the sampled firms across the study period is of small size. For the audit committee qualifications, which mirrors if the members hold either a certificate or high qualification in accounting, the mean value showed a rate of .69/1. Finally, most audit committees meet frequently as per the regulations and code.

The most noticeable variation is in the expertise in accounting and finance of the audit committee members, that is, the standard deviation value is high (.45/1), which sheds lights on the need to govern this issue as the non-satisfactory audit committee qualifications may lead to improper decisions, waste of efforts and misleading negotiations in most of the cases. In conclusion, the score of audit committee effectiveness shows a promising value as the mean value is 3.61/5 which seems to be satisfactory, though, some firms completely ignored the corporate governance rules in terms of their audit committees, this may be justified because of problems in the disclosure of these vital information.

The control variables in this study are the firm size measured by the natural logarithm of the total assets, the results showed that there is a shallow difference between the firms in terms of their size, the average value is 7.678 which is equivalent to 47,643,099 JD as a value of the total assets, the size of the smallest observation is 5.825 (i.e., 668,344 JD) and the size of the biggest observation is 9.337 (172,701179 JD). Finally, the service sector in general shows a promising profitability based on the return of their assets which was on average 2.228%, the minimum value shows a significant loss of -.401 and the maximum value shows a profit of 12%, the variation between the observations may be justified due to the internal differences within the nature, the age and the size, the capital and other factors of the firms inside the sector. These numbers confirm the need and implications to investigate this sector due to many reasons including their implications to the Jordanian economy.

**Table 3**

**Descriptive Statistics for the Industrial Sector**

Descriptive Statistics for the Industrial Sector					
	Obs.	Mean	St. D.	Min.	Max.
Capital Structure	220	.3561	.2111	.00493	.963
Institutional Ownership	220	.2149	.134	0	.973
Managerial Ownership	220	.12685965	.1018	0	.920
Foreign Ownership	220	.1269672	.2427	0	.987
Concentrated Ownership	220	.6203	.2629	0	1
Independence of Audit Committee	220	.84	.364	0	1
The Independence of Audit Committee Chairman	220	.90	.304	0	1
The Size of Audit Committee	220	.32	.023	0	1
The Expertise in Finance The Audit Committee Meetings	220	.74	.4390	0	1
Committee Effectiveness (Score)	220	.65	.477	0	1
Firm Size	220	3.50	1.088	0	5
Total Assets	220	7.41186	.535856	5.964	9.083
Profitability (ROA)	220	25814279	3434	920450	1210598134
	220	.1278	.6460	.026	.783

Table 3 above shows the descriptive statistics for the industrial sector. It appears that the mean value of the capital structure (leverage) is 35.6% signifying that the industrial firms depend on the debt; this ratio is slightly higher than the service sector. The minimum value of the observations is limited to (.0049). Still, the maximum dependency on debt is about 96.3%. The institutional ownership mean value is (21.5%), the managerial ownership with a mean value of (12.7%), the foreign ownership with a mean value of (12.7%) and finally the concentrated ownership with a mean value of (62.03%). Across all ownership kinds, the highest mean value is for the concentrated ownership, which is the same as for the service sector, the least form of ownership structure is for the managerial ownership, which differs from the services' sector. The highest variation is in the concentrated ownership followed by the foreign ownership (.26, .24) respectively. The minimum value of all ownership structure types is 0%, though, the maximum observation reached 100% for the concentrated ownership by Jordanian industrial firms.

The independence of the audit committee presents a value of .84/1 of the sampled audit committees which represent a high degree of independence with a variation of about 36%. The same is determined for the independence of the audit committee chairman, where the mean value is about .90/1. The size of the audit committee is the third inquired matter based on the Jordanian corporate governance code; the value shows that (.32) of the sampled firms across the study period is of a small size. For the audit committee qualifications, which mirrors if the members hold either a certificate or high ability in accounting or finance, the mean value showed a rate of .74/1. Finally, most audit committees meet frequently as per the regulations and code (.65).

In conclusion, the score of audit committee effectiveness shows a promising value as the mean value is 3.5/5 which is high and satisfactory, though, some firm(s) exposed a complete ignorance of the corporate governance rules in terms of their audit committee, this may be justified because of problems in the disclosure of these vital information.

With respect to the firm size, the results show that there are shallow differences between the firms in terms of their size, that is, the average value is 7.41186 which is equivalent to 25,814,279 JD as a value of the total assets, the firm size is not far from the size of the average value of the service firms. The smallest observation is 5.964 (i.e., 920,450JD) and the size of the biggest observation is 9.083 (210,598,134JD). For the ROA, the industrial sector shows a profitability in average of .1278 which is much higher than the service sector. The variation in the ROA is justified according to the differences in the sort of industrial sub-sector and the firm's characteristics.

## 4.2. Regression Analysis and Hypotheses Testing

Before starting the regression analysis, the autocorrelation test is employed to explore if there is a serial correlation case in the residuals in the regression analysis using Durbin and Watson (DW) test. The optimal value for the DW test ranges between 1.5 and 2.5 (Green & Salkind, 2016). Table 4 shows the autocorrelation test results:

Insert Table 4 here.

It appears from the results in table 4 that the DW values fall within the accepted cut off range (1.5 and 2.5). These results mean that there is no autocorrelation case in the residuals for all independent variables. The VIF test is used to confirm that the independent variables are totally not highly correlated to each other, this is confirmed with the VIF values which are less than 10. The results of this model confirm that there is no partial correlation between the independent variables. The tolerance test serves the

same purpose, and its values are less than 1, therefore, these results as well show an acceptable tolerance value.

**Table 4**  
**Autocorrelation and Multicollinearity Results**

Audit Committee Effectiveness	Model	Durbin-Watson	VIF	Tolerance
Institutional Ownership	1	1.741	1.273	.722
Foreign Ownership	2	1.841	1.431	.571
Managerial Ownership	3	1.803	1.169	.523
Concentrated Ownership	4	1.856	1.385	.634
Capital Structure	5	2.017	1.276	.356
Audit Committee Effectiveness (Score)	6	1.809	1.136	.122
Firm Size	7	1.847	1.099	.909
ROA	8	1.707	1.375	.727
Industry Type	9	1.931	1.932	.517

To attain the study objectives in investigating the effect of capital structure and ownership structure on the audit committee effectiveness, multiple regression modes are used to test all null hypotheses at the sector level and for both sectors.

Table 5 summarizes the hypotheses testing results. According to above literature review and methodology sections, the study model is represented as follows:

$$ACEScore_{it} = \alpha + \beta_1 Ins\_OS_{it} + \beta_2 Man\_OS_{it} + \beta_3 For\_OS_{it} + \beta_4 Con\_OS_{it} + \beta_5 Cap_{it} + \beta_6 Ind_{it} + \beta_7 Size_{it} + \beta_8 ROA_{it} + e_{it} \dots\dots\dots 2$$

Table (5) below presents the outcomes of the regression model for the nonfinancial sectors; the results are designed to analyze the effect of ownership structure measured by; institutional ownership, foreign ownership, managerial ownership, and concentrated ownership controlled by the profitability (ROA), the industry type and the total assets to measure the firm size. The variables' coefficients, significance values, the F-value, the R-value and the adjusted R<sup>2</sup> as well are presented and then interpreted below.

Insert Table 5 here.

The results for the non -financial sectors show that the R-value is 57%, which indicates a strong and positive correlation between the independent variables and the audit committee effectiveness (score). The value of the adjusted R<sup>2</sup> is 32.4%, which implies that the variations in the independent variables (ownership structure and capital structure) with the controlling variables (ROA), industry type and firm size explain about 33% from the total change in the dependent variable (audit committee effectiveness). The R<sup>2</sup> result is aligned with the study of Agyei-Mensah et al. (2019) and the results of Méndez and García (2007). The overall model is significant as the F-value is 4.415 and the related p-value is .000 which is less than the 5%. Thus, the results, as well, show that the independent variables, along with control variables, significantly explain the variations in the audit committee effectiveness at less than .05 level of significance. However, in the following sections we will test the hypotheses in detail:

**H<sub>01</sub>:** there is no statistically significant impact for the ownership structure on the audit committee effectiveness of Jordanian nonfinancial firms.

Insert Table 5 here.

As we mentioned above, the overall regression analysis shows that the value of the adjusted R<sup>2</sup> is 32.4%, and the F-value is 4.415 and the related p-value is .000 which is less than the 5%. Thus, the results show that the independent variables (ownership structure and capital structure), along with control variables, significantly explain about 33% of the

variations in the audit committee effectiveness at less than .05 level of significance. This result implies that the first major null hypothesis will be rejected and concluding that there is a significant positive impact of the ownership structure on the committee effectiveness. However, this major hypothesis is divided into sub-hypotheses and will be tested below:

**H<sub>01.1</sub>:** there is no statistically significant impact for the institutional ownership on the audit committee effectiveness of Jordanian nonfinancial firms.

**Table 5**

**Regression Model Results**

Dependent Variable	Independent and Control Variables					
	VIF	$\beta$	Sig.	T-value		
<b>Audit Committee Effectiveness (Score)</b>	Institutional Ownership	1.273	-.026	.921	-.099	
	Foreign Ownership	1.431	.134	.558	.586	
	Managerial Ownership	1.169	-.941	.003	-2.966	
	Concentrated Ownership	1.385	-.705	.016	-2.429	
	Capital Structure	1.276	.813	.001	3.288	
	Firm Size	1.099	.367	.002	2.754	
	ROA	1.375	.106	.315	1.006	
	Industry Type	1.932	.125	.000	3.156	
<b>R</b>		.570				
<b>R<sup>2</sup></b>		.324				
<b>F</b>		4.415				
<b>Sig.</b>		.000				

Table 5 shows that the regression coefficients ( $\beta$ ) for institutional ownership is (-.026), and the significance value is (p-value=.921; t= -.099), which is higher than the significance level used in this research (.05) and t-value is less than 2, therefore the effect of institutional ownership on audit committee effectiveness (score) is negative and insignificant. Accordingly, we accept the first null sub-hypothesis and conclude that there is no significant statistical impact of institutional ownership on audit committee effectiveness (score). This conclusion is incongruent with Zureigat (2011) who found that institutional ownership has a significant positive relationship with audit quality. Chau and Leung (2006) argued that institutional investors, to avoid losing control, may be reluctant to appoint independent directors, preferring to establish boards that do not try to alleviate their discretion over decision-making, therefore, an increase in their ownership decreases the need to monitor insiders through mechanism such as an AC, and instead, those types of investors may serve as a substitute to the AC, in monitoring management. Al-Najjar (2015) argued that controlling and monitoring the activities of the companies may vary depending on the individuals and institutions' abilities. The enhancement of the controlling process over management decisions leads to performance improvement.

**H<sub>01.2</sub>:** there is no statistically significant impact for the managerial ownership on the audit committee effectiveness of Jordanian nonfinancial firms.

The regression coefficient ( $\beta$ ) for managerial ownership is (-.941), and the significance value is (.003), therefore the effect of managerial ownership on audit committee effectiveness (score) is negative and significant. Accordingly, we reject the third null sub-hypothesis and conclude that there is a significant statistical impact of managerial ownership on audit committee effectiveness (score). However, the effect is negative, managements may resist controlling mechanisms that reduce their power and act as a stopping block against any management behavior that seeks maximizing their

benefits on the account of the shareholders (Chau & Leung, 2006). Therefore, it is expected that the increase in management ownership will increase management power in curbing the effectiveness of the audit committee. Even though the effective audit committee should help managements in controlling the various activities in the company, still the management may resist any competitive power. Méndez and García (2007) show that the relationship between managerial stock ownership and the activity of the audit committee is non-linear, that is, the effect of managerial stock ownership on the activity of the audit committee is negative for stakes under 30%.

**H<sub>01.3</sub>:** there is no statistically significant impact for the foreign ownership on the audit committee effectiveness of Jordanian nonfinancial firms.

The regression coefficient ( $\beta$ ) for foreign ownership is (.134), and the significance value is (p-value= .558; t= .586), therefore the effect of foreign ownership on audit committee effectiveness (score) is insignificant. Accordingly, we accept the second null sub-hypothesis and conclude that there is a positive insignificant statistical impact for foreign ownership on audit committee effectiveness (score). Our result is inconsistent with other studies (Khasharmeh & Joseph, 2017), who found positive and significant association between audit quality (as a type of controlling activities) and foreign ownership.

**H<sub>01.4</sub>:** there is no statistically significant impact for the concentrated ownership on the audit committee effectiveness of Jordanian nonfinancial firms.

The regression coefficient ( $\beta$ ) for the concentrated ownership is (-.705), and the significance value is (.016), therefore the effect of concentrated ownership on audit committee effectiveness (score) is negative and significant. Accordingly, we reject the null sub-hypothesis and conclude that there is a negative significant statistical impact of concentrated ownership on audit committee effectiveness (score). This result contradicts Al-Musali et al. (2019) who found that companies with higher level of family ownership, are more likely to have effective audit committee. However, Méndez and García (2007) found that the number of audit committee meetings becomes less frequent when the ownership structure is concentrated in the hands of large shareholders. Some researchers found a negative relationship between ownership concentration and voluntary disclosures (Hamadi & Heinen, 2015), and others found a positive relationship between voluntary disclosure and audit committee effectiveness (Samaha et al., 2015), this may be considered as a part of the justification of the negative impact of ownership concentration on the committee effectiveness.

**H<sub>02</sub>:** there is no statistically significant impact for the capital structure on the audit committee effectiveness of Jordanian nonfinancial firms.

The regression coefficient ( $\beta$ ) for capital structure is (.813), and the significance value is (.001), therefore the effect of capital structure on audit committee effectiveness is positive and significant. Accordingly, we reject the null sub-hypothesis and conclude that there is a significant statistical impact of capital structure on audit committee effectiveness. Our result is consistent with other studies (for example, Ali & Ahmed, 2015) who found that there is a significant association between audit committee independence, CEO duality, institutional ownership structure and capital structure (leverage) of the firms. Additionally, this is consistent with the view of (Adhikary & Mitra, 2016) who stated that creditors usually demand audit committee independence when they inject more debts to the firms to impede managements from manipulating earnings. Similarly, Vuko et al. (2015) provided evidence that there is a positive relationship between credit level, effective audit committee and audit quality.



## V. CONCLUSION

The study results indicate that the capital structure and ownership structure in general have a significant impact on the audit committee effectiveness. In more details, the results for the non-financial sector show that the R-value is 57%, which indicates a strong correlation between the independent variables (the ownership structure and capital structure) and the audit committee effectiveness. Additionally, the value of the adjusted R<sup>2</sup> implies that the model reveals that about 33% from the total change in the audit committee effectiveness is attributed to these variables. The study results are consistent with some of the previous literature, mainly (Al-Musali et al., 2019) where the R<sup>2</sup> value is (33.5%), which implies that the independent variables explain 33% of the variance in audit committee effectiveness, that is, the current study shows that about 33% of the variation in the audit committee effectiveness is explained by the independent variables.

However, with respect to the influence of ownership structure, the results related to its components vary. That is, some of the components have a negative and significant impact, others have a positive insignificant impact. This means that every type of ownership has its own implications and influences on the controlling and monitoring process. Moreover, the results may give the impression that the context in which the study was conducted helped in shaping the findings of the study, for example it is found by some researchers that ownership by non-financial institutions and foreigners in Jordan does not affect audit quality (see for example, Alhababsah, 2019).

In more details, the results of the study revealed that there is a negative and significant impact for the managerial ownership on the audit committee effectiveness. This result is consistent with some prior research results (Talab et al., 2018; Al-Musali et al., 2019), who stated that the higher extent of managerial ownership is negatively correlated to the extent of board's monitoring over the senior management activities. Additionally, Méndez and García (2007) show that the relationship between managerial stock ownership and the activity of the audit committee is negative for stakes under 30%. This result may be attributed to the dissatisfaction of management and boards of directors with the mechanisms that control their activities, and specifically, the role of the audit committee in the controlling process. That is, as we know from the international standard on auditing (ISA) No. 315, that one of the important components of internal control is the control environment, which reflects the attitudes of those involved in the governance process regarding the importance of the control system and its components. This means that if those involved with the governance process don't understand and perceive the importance of any controlling mechanism that controls their activities (such as the audit committee) they will resist this mechanism and disrupt its activities.

Additionally, the results also show a similar effect of the concentrated ownership on the audit committee effectiveness, that is, there is a negative significant impact. This result is consistent with the findings of (McMullen & Raghunandam, 1996) who stated that if a majority shareholder has more power in controlling the company, the probability of using its control rights to impede the audit committee to play the supervisory role is expected to be higher (McMullen & Raghunandam, 1996). Similarly, Yin et al. (2012) found that the audit committee meetings frequency was negatively associated with the proportion of shares owned by a majority shareholder. They added that this is in line with the view that there exists an entrenchment effect of highly concentrated ownership (Shleifer & Vishny, 1997; La Porta et al., 1999). Moreover, this result is consistent with the views of (Lin & Liu, 2009; Mehrotra et al., 2013; AlQadasi & Abidin, 2018; and

Kwarbai, 2020), who concluded that companies with weak governance mechanisms are characterized to have block holders, and concentration of ownership may play a minor role in the positive association between internal corporate governance and audit quality.

However, the effect of the institutional ownership is negative but insignificant. Although it is widely assumed that institutional investors are an important factor in improving corporate governance practices (Victoravich et al., 2011), and that institutional investors have the ability to monitor, discipline and influence a manager's decision in the firm (Victoravich et al., 2011; Darmadi & Sodikin, 2013), and therefore increase the audit committee effectiveness, despite of that, however, Hassan et al. (2017) found a significant negative relationship between institutional ownership and audit committees' effectiveness among non-financial companies listed on the UAE stock markets during the period 2011-2013. They argued that the negative relationship between audit committees' effectiveness and each of institutional and government ownership suggests substitutive relations. Moreover, Bushee et al. (2008) argued that although institutional investors have incentives to tilt their portfolios toward firms with better governance mechanisms, there is no clear evidence of a significant relation between institutional ownership and corporate governance. It is argued that institutional investors are not homogeneous (Chung & Zhang, 2011), therefore, the context is very important to be considered when interpreting contradictory results from various environments. Additionally, it can be argued that because institutional investors have strong incentive to monitor companies, firms' managements are, sometimes, are inclined to choose a low-quality monitoring mechanism to capture and sustain their opaqueness gains.

Additionally, the effect of the foreign ownership is positive but insignificant. It is expected that foreign ownership would encourage internal and external controlling mechanisms including the audit committee. That is, the implementation of strong corporate governance mechanisms increases foreign investors trust in the financial reporting reliability and quality. This means that the increase in foreign ownership may result in an increase in the audit committee effectiveness. However, the results of the study indicate that the effect is insignificant which can be justified because of the lower level of this type of ownership in Jordanian non-financial companies.

Finally, the impact of the capital structure on the audit committee effectiveness is positive and significant. This is the only result that stresses the positive and significant impact of one of the independent variables on the audit committee effectiveness. This result may reflect the impact of the higher accountability and the need for transparency needed to satisfy the needs of those who provide this type of capital finance. This result is consistent with the findings of (Adhikary & Mitra, 2016) who found that firms with higher leverage demand more audit committee independence to confirm quality monitoring and quality financial statements.

Finally, based on the study results, the researchers would recommend that there is a need for stressing on the audit committee effectiveness and the factors that constitute its dimensions, including independence, expertise, and activities of the committee members. Decision-makers should consider the appropriate measures to improve the effectiveness of the audit committees to direct the attention of the various investing groups to the fact that these committees are in their interest and that they are already in their service.

Additionally, there is a need to review the type of capital structure and its role in the corporate governance in general and audit committee effectiveness in specific. That is, the results showed that there is a positive significant impact of capital structure on the audit committee effectiveness.

Moreover, the researchers would recommend decision-makers to take the necessary actions to give more attention to the foreign and the institutional ownership types by stressing the need for effective monitoring mechanisms in general and audit committee in specific. Likewise, the researchers would encourage those concerned with the governance process of the non-financial companies to have better attitudes regarding the internal controlling mechanism including the audit committee and its role in the controlling process.

Finally, the future research is recommended to concentrate on other sectors including the financial sector, and to study the views of the various types of investors regarding their attitudes towards audit committees and other internal and external controlling mechanisms.

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