

**Does the Relationship between Board Gender Diversity, other  
Effective Board Characteristics, and Audit Quality Traits  
affect the 2Fs: Financial Performance and Financial  
Structure?  
“Evidence from Egypt”**

**Dr. Nevine Sobhy Abdel Megeid**  
Associate Accounting Professor  
nevinesobhy2@hotmail.com  
College of Management and Technology  
Arab Academy for Science, Technology and Maritime Transport

## ملخص الدراسة

تهتم البورصة المصرية بتمكين المرأة لتولي أدوار قيادية في سوق المال المصرية ، معتبرة أن تمكين المرأة من المشاركة في الحياة الاقتصادية هو أمر ضروري لبناء اقتصاديات قوية. تولي البورصة اهتماماً بالغاً بالمساواة بين الجنسين وتعزيز وتشجيع وتمكين النساء ليشغلن مناصب الإدارة العليا ومناصب بمجلس الإدارة بالشركات المصرية المقيدة.

الغرض من هذه الدراسة هو دراسة وفحص تأثير التنوع بين الجنسين في مجلس الإدارة ، وتطبيق الممارسات الفعالة لحوكمة الشركات ذات الصلة بخصائص تكوين مجلس الإدارة (مثل حجم المجلس ، واستقلالية المجلس / نسبة المديرين المستقلين ، وازدواج وظيفة الرئيس التنفيذي ورئيس مجلس الإدارة) وكذلك فحص خصائص وسمات جودة المراجعة (مثل الأستعانة بشركات المراجعة الكبرى Big 4 ، واستقلالية لجان المراجعة ، معدل تكرار اجتماعات لجنة المراجعة بشكل دوري وحجم لجنة المراجعة) على كلاً من الأداء المالي والهيكل المالي للشركات المصرية المدرجة في البورصة. وقد تم وضع سبع فروض للدراسة تسلط الضوء على العلاقات بين المتغيرات المستقلة والتابعة وتم تحليلها باستخدام أسلوب نماذج الانحدار وقد تم استخدام المقاييس والنسب مثل العائد على الأصول ، والنسبة الحالية ، والرافعة المالية لتقييم قرارات الهيكل المالي والأداء المالي ، بالإضافة إلى خصائص جودة لجان المراجعة ومجلس الإدارة مثل إستقلالية مجلس الإدارة ، وحجم مجلس الإدارة ، وازدواجية وظيفة الرئيس التنفيذي ، واستقلالية لجنة المراجعة ، والاستعانة بالشركات الكبرى للمراجعة Big 4 وكذلك حجم الشركة ، و Tobin Q كمتغيرات رقابية. تم استخدام بيانات ثانوية من القوائم المالية وتقارير مجلس الإدارة وتقارير حوكمة الشركات في الدراسة.

تضمنت عينة الدراسة 56 شركة غير مالية مدرجة في مؤشر ESG 100 لمدة ثماني سنوات ، من 2015 إلى 2022. تم استخدام معادلات الانحدار لتحليل البيانات. وتظهر نتائج هذه الدراسة وجود علاقة معنوية بين أداء الشركة وحجم واستقلالية مجلس الإدارة وازدواجية دور الرئيس التنفيذي ورئيس مجلس الإدارة وكذلك التنوع بين الجنسين في مجلس الإدارة. كشفت النتائج وجود ارتباطاً إيجابياً بين التنوع بين الجنسين في مجلس الإدارة وأداء الشركة حيث يرتبط وجود أناث في مجلس الإدارة بشكل كبير بتحسين أداء الشركة. ويؤثر حجم الشركة في هذه العلاقة بشكل كبير ، وتشير النتائج إلى أن الشركات الصغيرة من المرجح أن تستفيد من التنوع بين الجنسين في مجلس الإدارة. وتشير النتائج علي وجود أدلة متزايدة علي أن الشركات ذات التمثيل المناسب للمرأة غي الإدارة العليا ومجلس الإدارة تؤدي بصورة أفضل من الشركات التي لا تتمتع بهذا التمثيل. وتقوم البورصة في هذا الصدد بتشجيع الشركات المقيدة علي الإفصاح عن مؤشرات المساواة مثل النسبة المئوية للنساء الاثني يشغلن مناصب الإدارة العليا ومناصب بمجلس الإدارة.

أيضاً تشير النتائج إلى أن حجم مجلس الإدارة الصغير له تأثير ايجابي ومعنوي على عملية اتخاذ قرارات هيكل رأس المال حيث يلعب مجلس الإدارة دوراً مهماً في تحديد هيكل رأس مال الشركة وتشير النتائج انه لا تكون مجالس الإدارة الأكبر دائماً أكثر فعالية حيث انه كلما زاد عدد الأعضاء في مجلس الإدارة ، من المرجح أن يكون التواصل بينهم أكثر صعوبة. بالإضافة إلى

ذلك ، تظهر النتائج وجود ارتباط معنوي بين استقلالية مجلس الإدارة وأداء الشركة المالي حيث يتحسن الأداء المالي بشكل كبير عندما يزيد عدد المديرين المستقلين. وتظهر النتائج أيضاً وجود علاقة إيجابية بين معدل تكرار اجتماعات لجنة المراجعة وتحسن الاداء المالي للشركة. يمكن أن تساعد نتائج هذه الدراسة مجلس الإدارة في اتخاذ قرارات مستنيرة فيما يتعلق بتكوين لجان المراجعة وممارسات حوكمة الشركات الأخرى ذات الصلة بخصائص مجلس الإدارة من أجل تعزيز أداء الأعمال والصحة المالية وتحسين هيكل رأس المال للشركة وتقليل السلوك الانتهازي للمديرين ، وكذلك تحسين جودة وشفافية المعلومات المفصح عنها من قبل الشركة حيث تظهر النتائج أن حجم لجنة المراجعة وأستقلاليتها لهم تأثير كبير على الأداء المالي للشركة وتكون أكثر قدرة على حماية مصالح المساهمين وضمان دقة التقارير المالية.

**الكلمات المفتاحية:** التنوع بين الجنسين في مجلس الإدارة ؛ خصائص المجلس ؛ سمات جودة المراجعة ؛ استقلالية لجنة المراجعة ؛ مكاتب المراجعة الأربعة الكبار؛ قرارات الهيكل المالي؛ الأداء المالي؛ مصر.

## Abstract:

The purpose of this study is to examine the impact of board gender diversity with effective corporate governance practices related to board characteristics and audit quality characteristics (namely, big 4 audit firms, independent audit committees, frequent audit committee meetings, and audit committee size) on both the financial performance and structure of listed Egyptian companies. Accounting-based measures such as leverage ratio, return on assets, and current ratio were used to evaluate financial structure decisions and financial performance, respectively, as well as board independence, board size, independence of the audit committee, CEO duality, Big 4 and firm size, and Tobin's Q as control variables. Secondary data obtained from annual financial statements, board of directors' reports, and corporate governance reports was used in the study. The study sample included 56 non-financial companies listed on the 100 ESG index for an eight-year period, 2015 to 2022. Regression employing panel data is used to analyze the data. The findings of this study demonstrate a significant correlation between corporate performance and the size, independence, CEO dualism, and gender diversity of the board. Results reveal a positive association between board gender diversity and company performance, as the presence of female directors on the board is significantly linked to improved firm performance, and that firm size adversely moderates that relationship, suggesting that smaller businesses are most likely to benefit from board gender diversity. The findings indicate that board size has a significant impact on the capital structure decision-making process because the qualities of the board of directors play a significant role in determining a firm's capital structure. Additionally, the results show an insignificant correlation between board size and company performance. In addition, financial performance dramatically improves when the number of independent, non-standing directors rises. The results also demonstrate a positive correlation between audit committee meeting frequency and financial success, with higher audit committee meeting frequency resulting in better financial performance. The findings of this study can assist management and the board in making informed choices regarding the composition of audit committees and other corporate

governance practices that are related to board characteristics in order to enhance business performance and financial health. The independence and size of the board of directors will permit the audit committee members to carry out their supervisory duties in an appropriate manner. According to the findings, the audit committee's external members can reduce managers' opportunistic behavior, improve performance, and improve the company's quality and transparency of information by reducing information fraud.

**Keywords: Board Gender Diversity; Board Characteristics; Audit Quality Traits; Independence of Audit Committee; Big Four; Financial Structure; Financial Performance; Egypt.**

## **1. Introduction**

The function of the board of directors and audit committees is to oversee management behavior and make sure that they operate in the shareholders' best interests. This illustrates how audit committees can lessen the conflicts of interest between managers and shareholders according to the agency theory. The audit committee functions as a board of directors committee and takes on some of the board's duties. The capital structure, which commonly has an impact on financial performance, is one of the crucial financial decisions taken by the board of directors. The capital structure, which is made up of both debt and equity capital, determines how an organization finances its investments by combining debt and equity. It is a company's financial structure. Equity and debt are different in nature. Debt capital is the total amount of loans taken out by banks. Equity is the funds of a company held by owners or shareholders. To increase corporate value, the capital structure determines the ideal ratio of debt to equity.

The profitability and performance of the firm have long been correlated with its capital structure. The corporate governance system of a company depends on the qualities of the board of directors, some of which provide a stronger controlling mechanism than others. Determining whether a diverse board would strengthen or harm the capital structure is therefore vital. Diverse boards are essential for exercising strategic control, stricter

monitoring, and financial decisions (such as capital structure) in businesses, according to accounting, economics, and management researchers. Yet, they can assist by offering guidance on debt making in order to preserve the company's reputation and creditworthiness from the perspective of the creditors, which will increase the company's value. Given the inverse relationship between debt and firm performance, it is preferable to pay greater attention to capital structuring decisions and use as little debt as feasible to finance a company in order to increase firm performance. According to Younas and Kassim (2020), the board of directors is crucial in defending the interests of shareholders and ensuring that internal management operates to its full potential. Many studies have found a link between the board of directors and corporate leverage.

Board decisions have a direct impact on both financial structure decisions and financial performance decisions. The effectiveness and efficiency of debt and performance are aided by the presence of a well-developed board with gender diversity, an effective board, and an efficient audit committee. It is crucial to investigate how gender diversity on boards impacts financial structure and performance. However, in a developing country like Egypt, there has been little research on the relationship between gender diversity on boards and financial structure and performance. Also, one of the issues that receive an excessive amount of attention from studies is the effectiveness of audit committees. Investor confidence in the accuracy of companies' financial statements has significantly declined over the past two decades as a result of corporate frauds at various companies (including Enron, Parmalat Toshiba, and others). As a fact, corporate frauds have been caused by agency conflicts between firm management and stockholders. Numerous nations have enacted legislative reforms with the primary goal of improving corporate governance practices. The roles and responsibilities of the audit committee have undergone significant adjustments as a result of these reforms.

Audits are crucial in reducing investors' information risk and, consequently, a company's cost of capital. To keep the public's belief in the value of the audit, which reveals the auditor's true behavior, audit quality is crucial. Investors' views of information risk may be impacted by audit quality since higher audit quality results in more rigorous financial

information verification and, consequently, more effective monitoring. Increased audit quality will lower the level of information risk and lower equity capital costs by reducing uncertainty about the quality of financial information. In particular, the qualities of the audit committee that are crucial to its success in carrying out its responsibilities are examined in this study, along with the impact of the audit committee on the financial structure and performance of the company. In all corporate governance literature, it is assumed that the audit committee is involved in ensuring that auditors are independent of management. Hence, the audit committee can be a tool for reducing agency issues (Jensen, 1986). Through its oversight function, the audit committee is essential to influencing the performance of the company. The effect of audit committees on corporate performance has been the focus of many studies in both developed and developing nations. The audit committee's makeup and qualities have a significant impact on how well an organization performs. There hasn't been much research done on how the audit committee's qualities affect the financial performance and capital structure of businesses in developing nations like Egypt.

## **2. Literature Review**

### **2.1 Board Characteristics and Financial Structure Decisions**

#### **2.1.1 Board Gender Diversity and Financial Leverage**

The selection of the appropriate capital structure is necessary for making the right decision. The management business makes the financial and capital structure decisions. In fact, if board feminization policies are founded on moral, ethical, and demographic considerations, they cannot be implemented at the expense of the financial and economic factors that influence a company's ability to remain viable. As a result, the appeal and reliability of regulatory measures and suggestions for moral behavior are dependent, in part, on their capacity to address the worries of the various stakeholders and take part in the improvement of governance procedures. In this sense, the feminization of boards must actively contribute to the improvement of the information environment and the effectiveness of governance.

According to this observation and the pecking order hypothesis of Myers (1984), which asserts that information policy is a key factor in capital structure decisions, there may be a connection between board gender diversity and capital structure. Also, the number and caliber of disclosures made by the company, the information asymmetry, and ultimately capital structure decisions are influenced by the presence of women on the board. According to Ben Saad and Belkacem (2022), the capital structure may be indirectly affected by the gender diversity on the board. The relationship between board gender diversity and capital structure decisions can be mediated by transparency.

Funding using debt is preferable in terms of leverage. As they are more risk-averse than male directors, female directors frequently use less debt or outside funding. Women on the board can influence lenders to charge debtors less interest when external financing is required, which can boost the company's financial results (Hatane & Tarigan, 2020). According to research done by Faqih and Jaradat in 2015, gender diversity is positively correlated with leverage, and according to Alves and Francisco (2015), gender and capital structure have a positive association, and their findings suggest that having more women on a board results in improved board composition.

### **2.1.2 Board Size and Financial Leverage**

Board structure is significantly influenced by board size, there is ongoing debate regarding the connection between board size and corporate leverage. Numerous studies have found a strong inverse association between board size and a firm's leverage; other studies have found positive findings; still other studies have found no relationship at all (Njuguna & Obwogi, 2015; Tawfeeq et al., 2018). Board size and leverage studies are less prevalent in developing nations, particularly in Egypt, as earlier research on the topic was primarily focused on wealthy nations. So, in the context of Egyptian listed firms, this study is in great demand.

In a prior study, Jensen (1986) discovered that companies with more board members had higher levels of leverage than companies with fewer board members because they used more debt financing than equity

financing. This study suggests that having more senior executives can provide them with better access to outside financing.

For Jordanian enterprises, Tawfeeq, Alabdullah, and Ahmed (2018) investigated the connection between board size and capital leverage. The findings show that board size significantly reduces financial leverage. As a result, the existence of a tiny board of directors is the cause of the increased financial leverage.

Between 2009 and 2013, Njuguna and Obwogi (2015) looked into the relationship between board size and financial leverage among East African listed companies. The study's foundation was secondary information gathered from annual reports of publicly traded corporations. The outcome shows that bigger boards have greater capital leverage.

A study by Tawfeeq et al. (2018) that was conducted in Malaysia in 2018 revealed that smaller boards lead to higher financial leverage. Notwithstanding the fact that research on Malaysian family-owned businesses revealed no connection between board size and financial leverage (Purag & Abdullah, 2016), research on publicly traded companies in East Africa found a link between board size and capital leverage.

It has been hypothesized in the literature that larger firms are more forgiving of information inconsistencies than smaller organizations are (Wasiuzzaman, 2019). This suggests a possible inverse relationship between a company's size and debt. Larger companies are better able to spread their risk by diversifying their business models. One could argue that larger companies have fewer budgetary worries. According to Dirman (2020), the likelihood of financial hardship declines as a firm's scope expands.

Hungary-based researchers Balla and Mateus (2002) discovered a strong relationship between financial leverage and a company's size. A tiny board might result in an increase in financial leverage; as a result, board size affects debt financing (Alabdullah et al., 2018). Additionally, it is proposed that a larger board limits the level of risk that a company's management is likely to take and may prevent them from raising debt above a particular threshold, a negative correlation between board size and capital leverage is shown by Berger et al. (1997). Sewpersadh (2019) also illustrates how board size has a negative impact on leverage.

### 2.1.3 Board Independence and Financial Leverage

Board independence refers to the degree to which a company's board of directors is composed of individuals who are not connected to the company or its management. It is the ratio of independent to non-independent directors.

Board independence has been shown to have a significant impact on financial leverage in firms. Studies show that companies with more independent boards tend to have less debt and financial leverage because of more board oversight and accountability. Independent boards are also more likely to make strategic financial decisions that prioritize the long-term sustainability of the firm rather than short-term gains that may increase leverage. However, the relationship between board independence and financial leverage can vary depending on the specific characteristics of the firm, such as its size and industry.

The reputation of the company is enhanced by having an independent director because it aids in gaining the confidence of creditors and lenders. Furthermore, a higher proportion of independent directors support managerial management, which is more beneficial to shareholders and mitigates some adverse consequences brought on by investment and leverage levels (Vafeas & Vlittis, 2018). Independent directors enhance a company's perception of transparency in terms of signaling thanks to improved business performance (Sila et al., 2017). Independent directors are more open to sharing their opinions on management practices. Particularly, independent directors with extensive experience and superior knowledge of the businesses they represent allow organizations to both lower the likelihood of corporate scandals and raise firm value (McCabe and Nowak 2008).

Sheikh and Wang (2012) found a strong and favorable correlation between a firm's leverage and the proportion of non-executive directors. Similar findings were made by Harford et al. (2008), who noted that independent directors are effective at enforcing manager discipline. They discovered a substantial association between leverage and the board of directors.

Board independence has been found to have a negative relationship with financial leverage, indicating that firms with more independent board members are likely to have lower levels of debt. Independent directors are free from potential conflicts of interest and can act in the best interest of the company and its shareholders. Thus, their presence on the board can enhance the monitoring function, reduce agency costs, and mitigate the risk of financial distress, leading to a lower reliance on debt financing.

Moreover, studies suggest that greater board independence can lead to better corporate governance and stronger company performance. However, there is also evidence to suggest that board independence may be negatively associated with financial leverage, as more independent boards may be risk-averse and less willing to take on debt. Therefore, it is important for companies to strike a balance between board independence and financial leverage in order to optimize their performance and minimize risk.

#### **2.1.4 CEO Duality and Financial Leverage**

CEO duality exists when the CEO and the chairman are the same person. CEO duality refers to the situation in which the CEO and board chairman of a company have equal authority. There is evidence that CEO duality is positively associated with financial leverage, meaning that these companies tend to have higher levels of debt in their capital structure. This can be attributed to the increased power and control that the CEO or chairperson has over the company's decision-making process, including the ability to influence financing and risk management strategies. However, the relationship between CEO duality and financial leverage is not universal and may vary depending on other firm-specific characteristics (Alves et al., 2015). Due to the potential increased costs of knowledge asymmetries, businesses may be less willing to rely on hazardous financing sources when there is CEO duality. According to Faleye (2007), duality may lessen information asymmetry and increase access to outside funding. Contrarily, Vakili Fard et al. (2011) contend that companies with dual CEOs have greater leverage ratios. Furthermore, boards are expected to perform their major responsibilities, such as overseeing and disciplining the executive directors, better when they are more detached from the CEO.

According to prior research, CEO duality increases agency costs, but Thakolwiroj & Sithipolvanichgul's research investigation from 2021 shows that there is no significant relationship between CEO duality and the capital structure of Thai listed companies, with the justification that organizations with management that clearly understands their roles and responsibilities operate more effectively.

Although a more responsive capital structure contributes to a better financial mix that can increase a firm's market share, CEO duality in Vietnamese companies slows down the capital structure's response time (Nguyen et al., 2021). Although the capital structure is closely related to BOD components, CEO duality has little effect on it because women in CEO dual roles in European enterprises are unable to manage financial crises (Garca & Herrero, 2021). Another study (Abd-Elmageed & Abdel Megeid, 2020) investigated how CEO duality affects capital structure among Egyptian listed businesses and found conclusive evidence that if a CEO also serves as COB, equity financing is a source of increased concern.

**Based on the literature review, the researcher hypothesized that:**

***H1: There is a statistical correlation between board gender diversity, other board characteristics, and financial leverage decisions.***

## **2.2 Audit Quality Characteristics and Financial Structure Decisions**

### **2.2.1 Big 4 and Financial Leverage**

The reputation and size of the audit company are the key determinants of audit quality. The Big 4 audits are typically thought to have higher audit quality than other audits. According to studies, big auditors (KPMG, EY, Deloitte, and PWC) produce higher-quality audits than small auditors. Based on their training, experience, independence, and positive reputation, the Big Four auditors are thought to be more competent than the non-Big 4 auditors. Big 4, a dummy variable that indicates whether or not the local auditor was associated with a Big 4 firm, is the variable we are interested in. The dependent variable agrees with earlier empirical research on the debt ratio. Using Big 4 audit firms would make a company more likely than

not to finance with equity rather than debt, resulting in a lower leverage ratio. In the US context, Chang et al. (2009) showed evidence of a negative correlation between audit quality and the debt ratio.

The leverage of the corporation indicates the degree of agency conflict between insiders and debt holders. The risk of wealth transfers from debt holders increases as debt levels rise (Broye & Weill, 2008). The leverage ratio can be used as a stand-in for the significance of covenant restrictions, according to Press & Weintrop (1990). Therefore, anticipate a positive correlation between leverage and the selection of competent auditors.

Findings indicate that choosing a reputable audit firm is associated with a lower debt ratio, which might be of interest to policymakers as well as managers and financial stakeholders in emerging countries like Egypt, where external capital is important but obtaining finance is commonly hindered by severe information asymmetry.

### **2.2.2 Independence of Audit Committee and Financial Leverage**

The percentage of independent (non-executive) directors on the audit committee is referred to as audit committee independence. Through board oversight, the presence of an audit committee will increase corporate governance effectiveness. For the audit committee to be a useful oversight body and enhance corporate governance procedures within the firm, it must be independent. One of these corporate governance tools that helps businesses solve issues brought on by agency conflicts is the audit committee. In this way, the audit committee acts as a crucial conduit between company management and stockholders. i.e., agency conflict issues caused by the division of corporate ownership and control necessitate the efficient operation of audit committees as a governance tool. The audit committee, one of the essential elements of the monitoring role, is currently the focus of standard-setting organizations and financial market participants. The expropriation of minority stockholders by the shareholders who control the company can be avoided with a strong audit committee.

### 2.2.3 Audit Committee Meeting Frequency and Financial Leverage

The term "audit committee meeting" describes how often members gather. Meetings of the audit committee will be used as a monitoring and controlling mechanism; therefore, having more meetings will foster a trustworthy environment. Members will therefore be better able to organize and oversee management actions on the board's behalf (Tarus & Ayabei, 2016). The oversight body for management activities is thought to be the audit committee. The audit committee's meeting frequency is a useful indicator of its effectiveness. By increasing the number of meetings held each year, we can gain a better understanding of the overall picture of management activities, which will lead to stronger corporate governance. The audit committee's frequent meetings reflect the committee's level of activity and diligence (Waworuntu et al., 2014). Peizhi (2020) investigated the connection between leverage and audit committee meetings. The findings indicate a substantial inverse relationship between leverage and audit committee meetings.

A set of requirements and guidelines pertaining to the qualities of the audit committee are included in the Egyptian code of corporate governance. A minimum of three non-executive board members must make up an audit committee, according to the Egyptian code of corporate governance. It should have at least one member with knowledge of finance and accounting. At least once every three months, the audit committee should meet together. According to Brick and Chidambaran (2010), a high volume of audit committee meetings can increase the monitoring effectiveness of the audit committee, which in turn has a positive impact on the value of the company, and frequent audit committee meetings put pressure on the firm's management to disclose additional financial and non-financial information.

Waworuntu et al. (2014) looked into the connection between the frequency of audit committee meetings and debt leverage. The finding that there is a strong inverse link between the frequency of audit meetings and debt leverage supports the hypothesis that improved audit committee performance will encourage companies to maintain a sound capital structure. According to Ormin et al. (2015), it is asserted that the audit

committee serves as a board committee and carries out some board duties. Thus, a strong audit committee indicates a strong board. The audit committee significantly affects leverage because the board is accountable for minimizing agency conflict and disclosing the genuine image of a corporation.

#### **2.2.4 Audit Committee Size and Financial Leverage**

The effectiveness of the audit committee is greatly influenced by its size. In order to lessen agency conflict, the audit committee is deployed as an internal governance instrument to monitor managers' performance and decision-making. Since more committee members represent more people who will be monitoring and controlling activities, it helps to achieve the best leverage ratio as a control method. Decisions made by the audit committee are seen as crucial in the formulation of corporate capital structure policies. Studies have shown, according to Lidyah et al. (2020), that a large audit committee produces high-quality audits and is crucial when deciding on the capital structure of wealth-creating enterprises in Indonesia. In order to cut agency costs, they also recommended that companies expand the number of their audit committees. According to a study (Thiruvadi, 2018), companies with a sizable audit committee have a higher capital structure and debt financing ratio.

The study added that an audit committee with a high percentage of members produces conclusions that are very credible to stakeholders. Another study (Amin et al., 2022) analyzes managerial perception-based evidence on the effectiveness of audit committees, internal audit functions, firm-specific characteristics, and internet financial reporting. Findings demonstrate the strong credibility of the audit committee for the capital structure.

The size of the audit committee has a major impact on the firm's leverage since the audit committee is adversely correlated with debt leverage (Berkman & Zuta, 2017). The connection between the audit committee and the cost of debt was examined by Wahyuni (2019). The outcome demonstrated a considerable impact of audit committee size on debt costs. As a method of internal governance, the audit committee is used to monitor managers' performance and decision-making to lessen agency

conflict. It assists in ensuring the best leverage ratio as a control system. According to Benjamin and Karrahem (2013), having more committee members means that more people are being watched over and monitored.

**Based on the literature review, the researcher hypothesized that:**

***H2. There is a statistical correlation between audit quality characteristics and financial leverage decisions.***

### **2.3 Financial Performance and Financial Structure Decisions**

The debt-to-equity ratio (DER) is a ratio used to show how much the company puts into funding gained through debt as compared to funding obtained through its own capital. It is used to measure capital structure as a dependent variable in this study. A high debt ratio generally denotes aggressive debt financing by the organization. The trade-off theory postulates that successful businesses may decide to take on more debt in order to take advantage of the resultant tax advantages. Also, profitable businesses will have reduced (anticipated) costs of financial problems because they are less likely to file for bankruptcy. These justifications result in the prediction of a favorable connection between profitability and leverage in the absence of knowledge asymmetry. The pecking order theory, however, promotes the opposite. In order to avoid incurring asymmetric information costs, businesses will use retained earnings as their primary source of finance. Successful businesses produce larger amounts of retained earnings and are hence less reliant on outside funding sources. Profitability is predicted under the information asymmetry framework to be inversely correlated with leverage. The pecking order theory's predictions tend to be supported by empirical data in existing literature rather than the trade-off theory (Mens, 2019).

**Based on the literature review, the researcher hypothesized that:**

***H3. There is a statistical correlation between financial performance and financial leverage decisions.***

## 2.4 Board Characteristics and Financial Performance

### 2.4.1 Board Gender Diversity and Financial Performance

The status of women in Egyptian society is a complex aspect of the country's culture and traditions. Gender has a big social and economic impact in Egyptian society.

Regarding gender diversity on the board, Egyptian corporate governance legislation and regulations remain silent. Only four of the ten largest Egyptian listed companies disclosed the composition of their boards, and of those four, it appears that women make up roughly 15.33% of them on average. The average percentage of female board members across all ten businesses is 6.13% (Cigna et al., 2017). The Egyptian Stock Exchange, however, has begun to focus more on the representation of women on the board and has now integrated the problem of gender diversity into the larger discussion of sustainability, whose promotion is now a part of the stock exchange's strategy (ElHawary, 2021).

Abdelzaher and Abdelzaher (2019) looked into the performance of 114 Egyptian businesses and how having female board members affected that performance. They discovered that female participation has a favorable effect on firm value (ROE).

Numerous CEOs claimed that the presence of a female board member altered board dynamics and affected their ability to perform their oversight duties. Ladies are better at monitoring than their male counterparts, which may make boards more responsible (Triana et al., 2014). Also, women have a distinctive management style that influences the dynamics of the board and improves its negotiation and communication techniques. This creates a setting that is more participatory, which in turn strengthens a positive firm value (Simpson & Simkins, 2010; Barbulescu & Bidwell, 2013).

Diversity on a board may inspire originality and innovation. In the past, male directors made up the majority of boards. The importance of having female directors on boards is being recognized more and more in the modern era. Mixed results have been found in studies on the relationship between the participation of female board directors and corporate success. Previous studies have shown that diverse boards improve company performance (Yilmaz et al., 2021; Brahma et al., 2021). Zhang (2020)

claims that gender diversity on the board is unquestionably linked to company performance, in contrast, Martinez-Jimenez et al. (2020) did not discover any appreciable links between gender diversity and business performance in the listed Egyptian companies. Similar to this, Elgadi & Ghardallou's study from 2022 found that the number of women on a board of directors does not significantly affect a company's success.

Gender diversity and firm performance as assessed by accounting profit and firm value are positively correlated, according to earlier research by Fidanoski et al. (2014) and Anderson et al. (2016). The performance of the company might improve with more women on the board. According to Stephenson's (2004) discussion of the benefits of having more women on boards of directors, these boards are more likely to pay attention to risk management and auditing. Shamsuddin et al. (2017) discovered a beneficial impact of women's participation on business value. Directors of women pay attention to social responsibility and innovation in addition to the magnitude of their financial performance.

#### **2.4.2 Board Size and Financial Performance**

A board of directors is formed by individuals who are chosen to set the rules for the efficient operation of an organization. A corporation's board of directors is tasked with managing its day-to-day operations. Directors are essential to the efficient operation of a business. The size of a board influences gender diversity; the larger the board, the more gender diverse it will be.

According to the literature, an interactive board improves a company's performance. Joint board and management meetings, as well as more frequent meetings, are associated with improved business performance (Agustia et al., 2022). A substantial inverse link between board size and business performance was shown by Mohan and Chandramohan (2018). However, Hassan and Marimuthu (2018) demonstrate that when the size of the board is increased, performance improves for businesses that are more diverse.

The size of the board is seen as a crucial component of corporate governance that affects business performance. Larger boards in companies from Africa, Asia, Europe, Latin America, North America, and Oceania are shown to have a considerable impact on a firm's performance (Pucheta-Martnez & Gallego-Lvarez, 2020). The researchers contend that in order for these businesses to operate effectively and increase their profitability, they should be very concerned about increasing the size and independence of their boards of directors. Companies in developing nations work diligently to improve their performance, and most of them found that a larger board size has a significant impact on firm value and financial performance (Puni & Anlesinya, 2020). Contrarily, according to Brahma et al. (2021), a larger board size may increase expenses connected to BOD wages and personal interests (i.e., conflict of interest), which lowers the performance of enterprises.

### **2.4.3 Board Independence and Financial Performance**

The independent directors on the board are essential to the board's independence. These independent directors only serve in a supervisory capacity; they are not the corporation's regular staff. They might appear objective because they aren't involved in how the business is run. According to certain studies, a board with independent directors is better able to win stakeholders' trust and, as a result, attract more investment (Muniandy & Hillier, 2015). It has been asserted that board independence improves company performance and that board independence has a positive relationship with firm performance (Shan, 2019; Hu et al., 2022).

More external directors on the board will probably reduce managerial choices motivated by self-interest, which will enhance business performance. The oversight of a board by outside directors can prevent management from taking actions that could endanger the success and future of the organization (Nicholson & Kiel, 2007). Duchin et al. (2010) indicate that although the participation of external directors may be advantageous, the performance of the firm may suffer if the costs outweigh the advantages. They found no evidence that increasing board independence would result in better firm performance. Some authors contend that internal directors are better qualified to comprehend how the firm runs since they

are knowledgeable and intimately familiar with it. An ideal board should have both executive and non-executive directors, despite their claims that they contribute more value than outside directors.

Board independence refers to how closely tied the board's choices are to one another. According to Pucheta-Martnez & Gallego-Lvarez (2020), the impact of board independence on the productivity of Indian companies at all levels of the profitability ratio is negligible. They contended that choices made by the board with the support of all members may improve business success. According to research given by Amin et al. (2022), board member independence resulted in deteriorating profitability as measured by return on assets in Pakistani listed companies. They discovered that because Pakistani businesses are typically family-oriented, there is a conflict of interest if they operate independently.

#### **2.4.4 CEO Duality and Financial Performance**

Duality describes the circumstances in which the management and board chairman are the same person. According to Lee and Ko's study from 2022, CEO duality encourages trust and intelligent cooperation among huge boards. Improved board effectiveness and expanded access to resources could help businesses overcome the obligation to repay loans, enhancing their chance of surviving in the capital market.

Also, CEO duality can speed up decision-making in times of a changing environment, which is advantageous for businesses in the early stages of growth (Gan & Erikson, 2022).

However, other research indicates that having the same person serve as chairman and manager has disadvantages. If the board is not independent, the CEO may exert influence over the board's decision on determining the CEO's compensation package. Dakhllalh et al. (2019), state that the link between management ownership, government ownership, and business performance is adversely affected by CEO duality. The study implies that duality might have a negative effect on a firm's performance.

Debnath et al. (2021), looked into how agency theory and steward theory affected CEO duality and firm productivity and found that they had a negative impact on business operations and should be eliminated for better performance in Portuguese. Another study found that CEO duality

has a significant positive relationship with ROA but a negative relationship with market capitalization.

**Based on the literature review, the researcher hypothesized that:**

***H4. There is a statistical correlation between board gender diversity, other board characteristics, and liquidity.***

***H5. There is a statistical correlation between board gender diversity, other board characteristics, and profitability.***

## **2.5 Audit Quality Characteristics and Financial Performance**

### **2.5.1 Big 4 and Financial Performance**

All auditors are assumed to be professionals who adhere to the standards set by professional bodies, whether they work for large worldwide firms (such as the Big 4) or smaller national and local firms. Yet, it can be anticipated that the Big 4 audit practices are more impacted by global development than are the national audit companies. The researcher anticipates that using a Big Four audit firm will have a beneficial impact on performance due to the acquisition of more modern practices and strength from worldwide expertise (Collin et al., 2013). By appointing Big 4 auditors, businesses can identify bigger losses sooner and cut down on earnings-tampering activities. An important determinant of the likelihood of having a sound corporate governance process has been thought to be the presence of a sizable multinational audit firm (i.e., the Big 4). On average, these companies are anticipated to offer relatively high-quality auditing services (Kane & Velury, 2004). The relationship between audit quality (measured by industry specialty) and the size of audit committee meetings per year is empirically examined by Chen et al. (2005) as a signal of good corporate governance practice. They discover a connection between an industry-specific audit firm and the presence of an audit committee. In conclusion, large audit firms can manage opportunistic management practices, reduce agency costs, and raise the firm's worth.

When large audit firms examine a company, Lee et al. (2007) look into whether investors will receive higher future returns. The study discovers by looking at current-year stock returns that when financial statements are audited by the major audit firms, investors can more accurately estimate future earnings and invest more in the companies. Hussainey's (2009) investigation into the effect of Big 4 audit quality on investors' capacity to forecast future profitability for profitable companies yields a similar conclusion. Al-Ani and Mohammed (2015) also examined the connection between audit performance (BIG 4 audit firms) and audit quality. In their research, they discovered a significant positive correlation between the two variables.

### **2.5.2 Independence of Audit Committee and Financial Performance**

The audit committee must consist of at least three non-executive directors, and their supervisory roles must be performed by independent individuals, according to Egyptian corporate governance standards. This may lessen conflicts of interest between management and shareholders. This outcome is predictable because the committee's independence guarantees that the audit committee's monitoring role is strengthened.

The audit committee's independence from the corporation guarantees thorough audits and increases users' confidence in the system of financial reporting. According to certain studies, there is a strong correlation between corporate financial performance and the number of independent members among the listed businesses. The issue of allowing outsiders to serve on audit committees is up for debate. It is generally accepted that the audit committee members' tasks include recommending to the board particular actions for improvement and then monitoring those activities. The aim of the organization is achieved by an improved audit committee, and as a result, members of the audit committee will be able to carry out their tasks more effectively if they have a thorough knowledge of the operations of the company. Outsiders, however, might not fully comprehend what board members must do to uphold the same obligations of commitment, care, and objectives (ElHawary, 2021).

A non-executive audit committee member is the independent audit committee. This indicates that they are not members of the executive board. The value of the company can increase as a result of an independent audit committee (Klein, 2002). Furthermore, according to Mbobu & Umoren (2016) and Alqatamin (2018), the performance of the company is improved by the independence of the audit committee.

The independence of the board of directors shall permit the members of the audit committee to carry out their supervisory responsibilities. According to prior studies, having external members on the audit committee can reduce managers' opportunistic behavior, boost performance, and improve the company's quality and transparency of information by reducing information fraud (De Vlaminck & Sarens, 2013; Kallamu & Saat, 2015). According to Uzun et al. (2004), fraud is less likely to occur when there is a higher level of audit committee independence. According to the literature, it appears that the audit committee's main purpose is to lower agency costs, which enhances the firm's net performance.

### **2.5.3 Audit Committee Meeting Frequency and Financial Performance**

Audit committee meetings are a tool used by businesses to discuss and resolve problems and difficulties; more meetings mean more opportunities to resolve issues. Many studies have looked into the relationship between audit committee meeting frequency and company performance, with varying degrees of success. Khanchel (2007) and Kyereboah-Coleman (2008) discovered that a corporation performs better the more frequently an audit committee meets. Meeting frequency is a key indicator of the audit committee's activity level and is considered essential for efficient monitoring (Vafeas, 1999). The frequency of audit committee meetings indicates the level and focus of the committee's work as well as its commitment to business success. Regular audit committee meetings also enhance financial accounting procedures, which in turn enhance overall firm performance. Frequent audit committee meetings may also help to lessen asymmetric information and agency problems within a firm by

providing accurate and timely information to shareholders and investors. The finding suggested that increasing the number of audit committee meetings aids in spotting fraudulent financial activities and, through strengthening other corporate governance tools, presents the genuine financial condition to the board of directors.

In this regard, studies revealed contrasting opinions on how the frequency of audit committee meetings affects organizational outcomes. According to Bansal and Sharma (2016), when examining a company's performance based on market capitalization and Tobin's Q, the frequency of AC meetings has a considerable and favorable impact on ROE but a negligible and insignificant impact on ROA.

According to Klein (2002), regular meetings assist investors in receiving up-to-date financial information, thereby lowering agency conflicts between shareholders and management. As a result, earlier research suggested a link between audit committee meetings and company performance (Alzeban, 2020; Musallam, 2020). Ben Barka and Legendre (2017), on the other hand, discovered a negative correlation between audit committee meetings and financial performance. This research suggests that regular meetings may not always enhance a company's effectiveness.

#### **2.5.4 Audit Committee Size and Financial Performance**

The total number of committee members is referred to as the audit committee size. The audit committee is a crucial component of corporate governance and is primarily focused on developing and overseeing procedures for giving stakeholders in the company accurate and reliable information. The audit committee must contain a minimum of three non-executive board members, according to Egyptian corporate governance standards. According to the agency theory, larger audit committees have a tendency to be less engaged and focused than smaller ones. As a result, these large committees' monitoring processes will be abandoned, which will negatively impact business performance (Maina & Oluoch, 2018). In Amman, Aldamen et al. (2012) discovered that smaller audit committees with competent members who have experience in finance and accounting

are more likely to enhance the firm's performance in the marketplace (ElHawary, 2021).

Audit committee members frequently suffer major consequences, such as loss of reputational capital, if the entity's financial statements are manipulated and then made publicly known by any group. This is because they serve as effective monitors of company performance (Raghunandan and Rama, 2007). According to this theory, a large audit committee outperforms a small audit committee in terms of raising the caliber of financial reporting. Also, adding more non-executive directors to the audit committee can improve a company's ability to make decisions.

Chaudhry et al. (2020) revealed that audit committee characteristics are essential assets that offer numerous advantages to businesses. It follows that a larger audit committee with a higher percentage of financial competence reportedly helps businesses acquire funding to raise their performance level.

According to the study cited (Dakhlallah et al., 2020), audit committees in Jordanian businesses had a beneficial impact on firm profitability. They took dependence theory into account and presented comparable evidence that an audit committee functions more effectively as its size grows and has a positive impact on the firm's profitability. Firm profit increases if the audit committee strictly monitors fraud. According to the academic community, an audit committee has a positive impact on a firm's performance. However, firm age diminishes the audit committee's impact on a firm's performance, as demonstrated by the research of Muslih (2021). They claimed that fraudulent actions had a negative effect on company earnings and that audit committee oversight is inversely correlated with a company's longevity.

Also, it is asserted that a smaller audit committee tends to be more effective at observing how corporations disclose their financial results (Fariha et al., 2021). Some empirical investigations discovered a bad relationship between the size of the audit committee and financial success (Musallam, 2020).

The size of the audit committee has a considerable impact on the company's financial performance, according to Yah (2006). According to Aldamen et al. and Wu et al. (2012), an audit committee with fewer members is more effective at safeguarding shareholders' interests and ensuring the accuracy of financial information. Also, a larger audit committee is ineffective, which has no impact on the company's financial performance.

**Based on the literature review, the researcher hypothesized that:**

***H6. There is a statistical correlation between sufficient audit quality and liquidity.***

***H7. There is a statistical correlation between sufficient audit quality and profitability.***

### **3. Study Problem:**

It's still questionable how the qualities of the audit committee, board characteristics, performance of the company, and financial structure relate to each other. The problem of this study is that, according to the researcher, it is one of the few studies that tested the triple impact of board gender diversity with other board characteristics and sufficient audit quality on the financial structure decision-making and financial performance in Egyptian listed companies. This study attempts to fill the existing research gap in this field by examining the impact of the corporate governance practices related to board characteristics and audit quality traits on the financial leverage decision-making as well as on the firm's financial performance. This study is also important for management in terms of determining the optimal financial structure that leads to improving companies' performance and enhancing their growth and value. Thus, this study seeks to identify the extent to which there is a relationship between board gender diversity and other elements of corporate governance related to board, audit committee quality characteristics, capital structure, profitability, and liquidity in the listed Egyptian companies.

#### 4. Study Objectives

**The main five-fold objectives of this study are as follows:**

1. Examine the statistical relationship between board gender diversity, other board characteristics, and financial leverage decisions in the Egyptian listed firms.
2. Examine the statistical relationship between sufficient audit quality and financial leverage decisions in the Egyptian listed firms.
3. Examine the statistical relationship between firm performance and financial leverage decisions in the Egyptian listed firms.
4. Examine the statistical relationship between board gender diversity, other board characteristics, and financial performance in the Egyptian listed firms.
5. Examine the statistical relationship between sufficient audit quality and financial performance in the Egyptian listed firms.

#### 5. Study Theoretical Framework

In order to investigate the effects of board gender diversity, other board characteristics related to corporate governance practices and audit quality qualities on financial structure and financial performance in Egyptian listed companies, a quantitative research approach was adopted. By examining whether the study's controlled independent variables had an effect on the dependent variable, the study employed an experimental research approach to evaluate the viability of a theory. The study adopted a panel-based quantitative research methodology. This method was chosen since the study's data was composed of panels that had been converted to ratios. For investigations that require both the longitudinal and cross-sectional characteristics of the units under investigation, the study design is suitable.

In this study, as shown in Figure (1), the two dependent variables, the company's financial structure and financial performance, are influenced by independent factors: board gender diversity with other board characteristics and audit quality traits.

The board's gender diversity, board size, board independence, and CEO duality are used as proxies for the board's characteristics related to corporate governance practices. The independence of the audit committee, the frequency of its meetings, its size, and the Big 4 audit firms are used as proxies for audit quality traits.

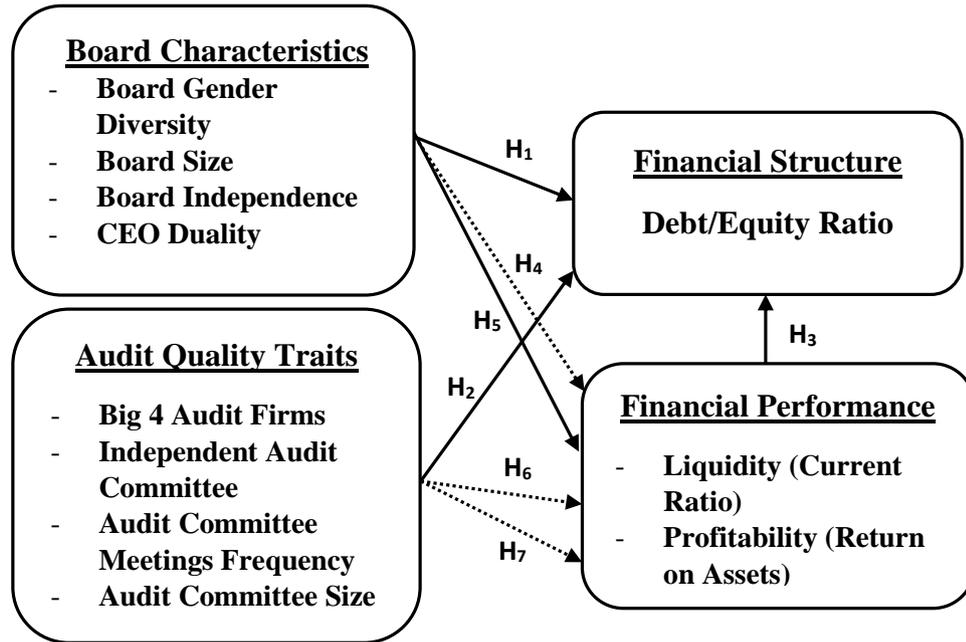


Figure (1): Study Theoretical Framework

## 6. Study Methodology

### 6.1 Study Population and Sample

This study aims to explore the triple impact of board gender diversity and other board characteristics related to corporate governance practices and audit quality traits on choices regarding financial structure as well as financial performance. All non-financial companies listed on Egypt's Stock Exchange (EGX 100) were included in the study population. However, because of the rigorous laws that apply to them due to their unique nature in terms of capital holdings and liquidity activities, which result in different financial statements than those of non-financial enterprises, this study excluded firms in the financial sector (banks and financial services).

The study used 56 listed businesses on the Egyptian Exchange (EGX 100) from 2015 to 2022 and panel data analysis to examine the research hypotheses. There are eight independent variables in this study (board gender diversity, board size, board independence, CEO duality, Big 4, and audit committee: independence, size, and frequency of meetings), the first four of which are related to board characteristics and the remaining four to audit quality traits. The Statistical Package for Social Sciences (SPSS) will be used to test hypotheses, analyze the data, and interpret findings.

### 6.2 Data Collection

The study used panel data, which includes 8-time series and cross sections, as well as secondary data. Data for all study variables was gathered between 2015 and 2022 from the public annual reports and financial statements of EGX100-listed companies. The study sample, which corresponds to 448 firm-year observations, comprised 56 cross-sectional units traded on the Egyptian stock market between 2015 and 2022 (time-series length = 8). Table (1) presents the study sample-sectors distribution for the 56 companies used.

**Table (1): The Study Sample Sector Distribution**

No.	Company Sector	No. of Firms
1	Real Estate	4
2	Basic Resources	3
3	Contracting & Construction Engineering	3
4	Food, Beverages and Tobacco	6
5	Industrial Goods, Services and Automobiles	5
6	IT, Media & Communication Services	2
7	Travel and Leisure	4
8	Energy & Support Services	3
9	Health Care & Pharmaceuticals	6
10	Building Materials	3
11	Trade & Distributors	4
12	Shipping & Transportation Services	4
13	Textile & Durables	5
14	Paper & Packaging	4
	<b>Total</b>	<b>56</b>

### 6.3 Regression Equations

The statistical relationship between board gender diversity and other board characteristics, audit quality traits, financial performance, and financial structure was examined using the following *seven multiple regression equations*:

- 1. Board Characteristics:** are measured by summing up the *four variables*, i.e., board gender diversity, board size, board independence, and CEO duality.
- 2. Audit Quality Traits:** are measured by summing up the *four variables*, i.e., Big 4 audit firms, audit committee size, frequency of audit committee meetings, and independence of the audit committee.
- 3. Financial Performance:** *Liquidity* is measured by asset turnover, current ratio, and inventory turnover. *Profitability* is measured by earnings per share, gross profit margin, return on equity, and return on assets.

4. **Financial Leverage:** is measured by the debt-to-equity ratio.

### **6.3.1 Impact of board gender diversity, and other board characteristics, audit quality traits, and financial performance on financial leverage decisions**

To test the hypotheses, regarding the impact of board gender diversity and other board characteristics, audit quality traits, and financial performance (in terms of liquidity and profitability) on financial leverage decisions, the following three regression models are utilized:

#### **First Regression Equation: Examine the impact of board gender diversity and other board characteristics on financial leverage decisions**

*H1: There is a statistical correlation between board gender diversity, other board characteristics, and financial leverage decisions.*

$$FL_{it} = \beta_0 + \beta_1 BGD_{it} + \beta_2 BS_{it} + \beta_3 BI_{it} + \beta_4 CEOD_{it} + \beta_5 FS_{it} + \beta_6 TQ_{it} + \varepsilon_{it}$$

**Where:**

$\beta_0$  = represents a constant coefficient in the regression model.

**Independent variables** =  $\beta_1, \beta_2, \beta_3,$  and  $\beta_4$  = indicate the regression coefficients of Board Characteristics (BC): Board Gender Diversity (BGD), Board Size (BS), Board Independence (BI), and CEO duality (CEOD).

$\beta_5$  and  $\beta_6$  = indicate the regression coefficients of the control variables: Firm Size (FS) and Tobin's Q (TQ).

**Dependent variable** = FL: Financial Leverage.

**It** = company i in time period t.

$\varepsilon_{it}$  = error term.

**Second Regression Equation: Examine the impact of audit quality traits on financial leverage decisions**

*H2: There is a statistical correlation between audit quality characteristics and financial leverage decisions.*

$$FL_{it} = \beta_0 + \beta_1 B4_{it} + \beta_2 IAC_{it} + \beta_3 ACMF_{it} + \beta_4 ACS_{it} + \beta_5 FS_{it} + \beta_6 TQ_{it} + \varepsilon_{it}$$

**Where:**

$\beta_0$  = represents a constant coefficient in the regression model.

**Independent variables** =  $\beta_1, \beta_2, \beta_3,$  and  $\beta_4$  = indicate the regression coefficients of Audit Quality Characteristics (AQC): Big 4 (B4), Independence of Audit Committee (IAC), Audit Committee Meetings Frequency (ACMF), and Audit Committee Size (ACS).

$\beta_5$  and  $\beta_6$  = indicate the regression coefficients of the control variables: Firm Size (FS) and Tobin's Q (TQ).

**Dependent variable** = FL: Financial Leverage.

It = company i in time period t.

$\varepsilon_{it}$  = error term.

**Third Regression Equation: Examine the impact of financial performance on financial leverage decisions**

*H3: There is a statistical correlation between financial performance and financial leverage decisions.*

$$FL_{it} = \beta_0 + \beta_1 AT_{it} + \beta_2 CR_{it} + \beta_3 IT_{it} + \beta_4 ROE_{it} + \beta_5 ROA_{it} + \beta_6 EPS_{it} + \beta_7 GPM_{it} + \beta_8 FS_{it} + \beta_9 TQ_{it} + \varepsilon_{it}$$

**Where:**

$\beta_0$  = represents a constant coefficient in the regression model.

**Independent variables** =  $\beta_1, \beta_2,$  and  $\beta_3$  = indicate the regression coefficients of financial performance: *liquidity*: Asset Turnover (AT), Current Ratio (CR), and Inventory Turnover (IT).

$\beta_4, \beta_5, \beta_6,$  and  $\beta_7$  = indicate the regression coefficients of financial performance: **profitability**: Return on Equity (ROE), Return on Assets (ROA), Earnings per Share (EPS), and Gross Profit Margin (GPM).

$\beta_8$  and  $\beta_9$  = indicate the regression coefficient of the control variables: Firm Size (FS) and Tobin's Q (TQ).

**Dependent variable** = FL: Financial Leverage.

It = company i in time period t.

$\varepsilon_{it}$  = error term.

### **6.3.2 Impact of board gender diversity, other board characteristics, and audit quality traits on financial performance**

To test the hypotheses, regarding the impact of board characteristics and audit quality traits on financial performance (in terms of liquidity and profitability), the following four regression models are utilized:

#### **Fourth Regression Equation: Examine the impact of board gender diversity, and other board characteristics on liquidity**

*H4: There is a statistical correlation between board gender diversity, other board characteristics, and liquidity.*

$$CR_{it} = \beta_0 + \beta_1 BGD_{it} + \beta_2 BS_{it} + \beta_3 BI_{it} + \beta_4 CEOD_{it} + \beta_5 FS_{it} + \beta_6 TQ_{it} + \varepsilon_{it}$$

**Where:**

$\beta_0$  = represents a constant coefficient in the regression model.

**Independent variables** =  $\beta_1, \beta_2, \beta_3,$  and  $\beta_4$  = indicate the regression coefficients of Board Characteristics (BC): Board Gender Diversity (BGD), Board Size (BS), Board Independence (BI), and CEO duality (CEOD).

$\beta_5$  and  $\beta_6$  = indicate the regression coefficients of the control variables: Firm Size (FS) and Tobin's Q (TQ).

**Dependent variable** = CR: Liquidity measured by current ratio.

$I_t$  = company  $i$  in time period  $t$ .

$\varepsilon_{it}$  = error term.

**Fifth Regression Equation: Examine the impact of board gender diversity, and other board characteristics on profitability**

*H5: There is a statistical correlation between board gender diversity, other board characteristics, and profitability.*

$$ROA_{it} = \beta_0 + \beta_1 BGD_{it} + \beta_2 BS_{it} + \beta_3 BI_{it} + \beta_4 CEOD_{it} + \beta_5 FS_{it} + \beta_6 TQ_{it} + \varepsilon_{it}$$

**Where:**

$\beta_0$  = represents a constant coefficient in the regression model.

**Independent variables** =  $\beta_1, \beta_2, \beta_3,$  and  $\beta_4$  = indicate the regression coefficients of Board Characteristics (BC): Board Gender Diversity (BGD), Board Size (BS), Board Independence (BI), and CEO duality (CEOD).

$\beta_5$  and  $\beta_6$  = indicate the regression coefficients of the control variables: Firm Size (FS) and Tobin's Q (TQ).

**Dependent variable** = ROA: Profitability measured by Return on Assets.

$I_t$  = company  $i$  in time period  $t$ .

$\varepsilon_{it}$  = error term.

**Sixth Regression Equation: Examine the impact of audit quality traits on liquidity**

*H6: There is a statistical correlation between sufficient audit quality and liquidity.*

$$CR_{it} = \beta_0 + \beta_1 B4_{it} + \beta_2 IAC_{it} + \beta_3 ACMF_{it} + \beta_4 ACS_{it} + \beta_5 FS_{it} + \beta_6 TQ_{it} + \varepsilon_{it}$$

**Where:**

$\beta_0$  = represents a constant coefficient in the regression model.

**Independent variables** =  $\beta_1, \beta_2, \beta_3,$  and  $\beta_4$  = indicate the regression coefficients of Audit Quality Characteristics (AQC): Big 4 (B4),

Independence of Audit Committee (IAC), Audit Committee Meetings Frequency (ACMF), and Audit Committee Size (ACS).

$\beta_5$  and  $\beta_6$  = indicate the regression coefficients of the control variables: Firm Size (FS) and Tobin's Q (TQ).

**Dependent variable** = CR: Liquidity measured by current ratio.

**It** = company i in time period t.

$\varepsilon_{it}$  = error term.

**Seventh Regression Equation: Examine the impact of audit quality traits on profitability**

*H7: There is a statistical correlation between sufficient audit quality and profitability.*

$$ROA_{it} = \beta_0 + \beta_1 B4_{it} + \beta_2 IAC_{it} + \beta_3 ACMF_{it} + \beta_4 ACS_{it} + \beta_5 FS_{it} + \beta_6 TQ_{it} + \varepsilon_{it}$$

**Where:**

$\beta_0$  = represents a constant coefficient in the regression model.

**Independent variables** =  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  = indicate the regression coefficients of Audit Quality Characteristics (AQC): Big 4 (B4), Independence of Audit Committee (IAC), Audit Committee Meetings Frequency (ACMF), and Audit Committee Size (ACS).

$\beta_5$  and  $\beta_6$  = indicate the regression coefficients of the control variables: Firm Size (FS) and Tobin's Q (TQ).

**Dependent variable** = ROA: Profitability measured by Return on Assets.

**It** = company i in time period t.

$\varepsilon_{it}$  = error term.

### 6.4 Study Variables: Definitions and Proxies

The proxies and definitions of independent, dependent and control variables that are examined in the seven regression models are shown in Table (2).

**Table (2): The Study Independent, Dependent and Control Variables: Proxies and Definitions**

Variables		Definitions	Proxies
<b>Independent Variables:</b>  <b>Board Characteristics (BC)</b>	<b>Board Gender Diversity (BGD)</b>	Gender diversity on the board of directors, including male and female. The percentage of female board members who are also directors.	A dummy variable with a value of 1 if there are one or more female directors and a value of 0 if there are no female members.
	<b>Board Size (BS)</b>	Both executive and non-executive directors should be on a board with the ideal number of members.	The total number of directors occupying boardroom seats.
	<b>Board Independence (BI)</b>	Percentage of non-executive independent directors on corporate boards.	The proportion of non-executive board members as a percentage of all board members.
	<b>CEO Duality (CEOD)</b>	The practice of having a company's CEO also serve as the board of chairman is known as CEO duality.	When the CEO and chairman of the board are the same person, a dummy variable with a value of 1 and a value of 0 otherwise.
<b>Independent Variables:</b>  <b>Audit Quality Characteristics (AQC)</b>	<b>Big 4 Auditor Firm (B4)</b>	The Big Four audit firms are Klynveld Peat Marwick Goerdeler (KPMG), PricewaterhouseCoopers (PwC), Deloitte, and Ernst & Young (EY).	Whether the auditing firm belongs to the Big 4 or not is a dummy variable based on a binary variable that gives the Big 4 a value of 1 and the non-Big 4 a value of 0.
	<b>Audit Committee Independence (ACI)</b>	The financial reporting and statements of a firm are supervised by an audit committee, which is composed of a board of directors. The audit committee's members must all be independent board members.	A dummy variable with a value of 1 for independent members of the audit committee and 0 otherwise.
	<b>Audit Committee Meetings</b>	The meetings of the audit committee refer to how frequently the committee gets	A dummy variable with a value of 1 if there are more meetings than three and 0 if there are

	<b>Frequency (ACMF)</b>	together. The Chief Financial Officer (CFO), Chief Legal Officer (CLO), and, if necessary, the auditor attend the audit committee meetings.	fewer.
	<b>Audit Committee Size (ACS)</b>	The number of audit committee members determines the audit committee's size.	A dummy variable with a value of 1 if the audit committee has at least 3 members and a value of 0 otherwise.
<b>Dependent Variable</b>	<b>Financial Leverage (FL)</b>	When a business borrows money to undertake an investment with the aim of larger returns, this is known as financial leverage.	The FL is determined by the ratio of total debt to total equity.
<b>Financial Performance (FP): Liquidity</b>	<b>Asset Turnover (AT)</b>	Investors can assess how successful businesses use their assets to create sales using asset turnover metrics.	The ROA ratio compares the business's net income to the average total amount of assets invested in the company.
	<b>Current Ratio (CR)</b>	The current ratio measures a company's ability to satisfy short-term financial obligations with a maturity of one year.	The current ratio is determined by dividing the total current assets of the company by the total current liabilities.
	<b>Inventory Turnover (IT)</b>	Inventory turnover is a period of time between when a company purchases a product and when it is sold.	The cost of goods is divided by the average inventory for the same time period to determine the inventory turnover ratio.
<b>Financial Performance (FP): Profitability</b>	<b>Return on Equity (ROE)</b>	The return on equity ratio effectively calculates the rate of profit that holders of a company's common stock make on their investments.	Net income is divided by shareholders' equity to arrive at the measure of financial success known as ROE.
	<b>Return on Assets (ROA)</b>	Company management, analysts, and shareholders can use ROA to judge how successfully a company uses its resources to turn a profit.	ROA is determined by dividing average total assets by net income.
	<b>Earnings per Share (EPS)</b>	EPS is a common metric for determining corporate value, showing how much a company earns per share of stock.	A company's EPS is calculated by dividing its earnings by the number of outstanding shares of ordinary stock.
	<b>Gross Profit Margin (GPM)</b>	Analysts use the gross profit margin as a metric to evaluate the financial health of a business.	Gross profit margin, represented as a percentage of sales, is used to determine a company's profitability after deducting the

			direct cost of items sold from the revenue.
<b>Control Variables</b>	<b>Firm Size (FS)</b>	Controlling for scale economies and the market power brought on by a firm's size, firm size is calculated using the natural logarithm of total assets.	FS is measured as the natural logarithm of all assets owned by the company.
	<b>Tobin's Q (TQ)</b>	It was described as the correlation between the asset book value of the company and the market price.	TQ = (Market value of equity + Book value of debt) / Book value of total assets

## 6. Panel Data Regression Statistical Results and Analysis

The Hausman test was used for the specified panel regression model to determine which panel effects (fixed or random) produced the best estimation results for the study. In accordance with the fixed-effects hypothesis, the study uses the panel fixed-effects regression technique, with financial structure as the dependent variable and a selection of firm-specific characteristics as the independent variables.

Additionally, the researcher tested for heteroscedasticity, serial correlation, cross-dependency correlation, and functional misspecification issues for each of the seven regression models, and all necessary data treatment was applied as stated below to ensure accurate, reliable, and valid results.

The three regression models that are used to examine the three hypotheses regarding the effect of board gender diversity and other board characteristics, audit quality traits, and the firm's financial performance on financial structure are as follows:

### 7.1 First Regression Equation: Examine the impact of board gender diversity, and other board characteristics on financial leverage decisions

*H1: There is a statistical correlation between board gender diversity, other board characteristics, and financial leverage decisions.*

$$FL_{it} = 10.64697 - 4.248796 BGD_{it} + 2.159216 BS_{it} - 0.4831113 BI_{it} + 5.303638 CEOD_{it} + 2.248737 FS_{it} - 0.1859735 TQ_{it} + \varepsilon_{it}$$

**Table (3): First Regression Equation: Examine the Impact of Board Gender Diversity and other Board Characteristics on Financial Leverage**

First Regression Equation: Pooled OLS - Dependent Variable: FL				Decision
Independent variables	Variable Coefficient	Drisc/Kraay Stand. errors	P – Value	
Board Gender Diversity (BGD)	-4.248796	2.356987	0.054	Significant
Board Size (BS)	2.159216	0.3645742	0.000	Significant
Board Independence (BI)	-0.4831113	1.25479	0.367	Insignificant
CEO Duality (CEOD)	5.303638	1.365494	0.022	Significant
Firm size (FS)	2.248737	1.034568	0.0485	Significant
Tobin’s Q (TQ)	-0.1859735	0.0975147	0.358	Insignificant
R – squared		0.1587		
Prob. (F – Test)		0.0000		
GroupWise Heteroskedsticity Modified Wald Test		Chi-square	P – value	
		3.9e+06	0.0000	
Overall Ramsey RESET Test		F-test	P – value	
		15.01	0.0000	
Wooldridge Autocorrelation Test		F-test	P – value	
		49874.271	0.0000	
Cross-Sectional Dependence Test			P – value	
		5.352	0.0000	

Table (3) shows the results of panel regression for the *first regression model* estimated using pooled OLS, with financial leverage being the dependent variable and board gender diversity, board size, CEO duality, and board independence as the independent variables. The model sought to investigate the impact of board gender diversity and board characteristics on financial structure. The findings presented in Table (3) show that 4 out of 6 variables are significant. In other words, at the 1% level of significance, board gender diversity, CEO duality, board size, and firm size all significantly affect the financial structure. The results revealed that board gender diversity, board independence, and Tobin’s Q have a significant negative impact on the company’s financial leverage. Also, results revealed that board size, firm size, and CEO duality all had a positive impact on financial leverage, indicating that companies with a single person serving as both the CEO and board chair have a positive financial structure.

**The statistical findings of Table (3) indicate the following:**

- 1. Board gender diversity and financial leverage:** Directors are regarded as top-level managers who have a significant impact on the capital structure decision-making of any firm. A gender-diverse board has a comparable impact on agency issues as high leverage, just as women in the boardroom result in increased supervision and hence lower agency expenses. Given that women tend to avoid risk, it is conceivably predicted that boards with a higher proportion of female directors will choose retained earnings over debt and debt over equity. Female directors are observed to have a lower debt-financing ratio in the financing mix and are thought to be more placid.
- 2. Board size, board independence, and financial leverage:** According to the findings, the debt-to-asset ratio significantly correlated positively and negatively with the size of the board and the participation of independent non-executive directors on the board, both of which are aspects of corporate governance. Results have demonstrated that a company's capital structure decision is influenced by corporate governance. The results indicated that board size is positively associated with debt financing, and this greatly influenced the capital structure decision-making process. According to the findings, less debt financing would be needed for the capital structure if the board of directors of Egypt's listed companies were granted more independence. This is because a board with greater independence may more closely regulate management for debt financing.
- 3. CEO duality and financial leverage:** Duality of power is the combination of the CEO of the company and the chair of the board of directors in one individual. CEO duality and capital structure of Egyptian listed firms, with the justification that organizations with management that clearly understands their roles and duties perform better. A more responsive capital structure contributes to a stronger financial mix. It has been found that this practice can lead to excessive risk-taking and poor corporate governance. Financial leverage, on the other hand, refers to the amount of debt a company uses to finance its operations. While high financial leverage can increase a company's

profitability, it can also increase the risk of financial distress. Therefore, balancing CEO duality and financial leverage is critical for companies to maximize shareholder value.

## **7.2 Second Regression Equation: Examine the impact of audit quality traits on financial leverage decisions**

*H2: There is a statistical correlation between audit quality characteristics and financial leverage decisions.*

The overall forecasting equation for FL is:

$$FL_{it} = 11.257896 + 2.547892 B4_{it} + 5.364587 IAC_{it} + 0.487965 ACMF_{it} - 0.751236 ACS_{it} + 3.654789 FS_{it} + 0.032547 TQ_{it} + \varepsilon_{it}$$

**Table (4): Second Regression Equation: Examine the Impact of Audit Quality Traits on Financial Leverage Decisions**

Second Regression Equation: Generalized Least Squares (GLS) - Dependent Variable: FL				Decision
Independent Variables	Variable Coefficient	Drisc/Kraay Stand. Error	P – Value	
Big 4 (B4)	2.547892	1.254789	0.044	Significant
Independent Audit Committee (IAC)	5.364587	1.365478	0.003	Significant
Audit Committee Meeting Frequency (ACFM)	0.487965	0.487965	0.087	Significant
Audit Committee Size (ACS)	-0.751236	0.148795	0.036	Significant
Firm Size (FS)	3.654789	1.254791	0.057	Significant
Tobin's Q (TQ)	0.032547	0.354789	0.487	Insignificant
R – Squared		0.2368		
Prob. (F – Test)		0.0000		
GroupWise Heteroskedsticity Modified Wald Test		Chi-Square	P – Value	
		1.7e+04	0.0000	
Overall Ramsey RESET Test		F-test	P – Value	
		3.01	0.1879	
Wooldridge Autocorrelation Test		F-test	P – Value	
		364875.244	0.0000	
Cross-Sectional Dependence Test			P – Value	
		2.3654	0.348	

The results of panel regression for the second regression equation, estimated using the generalized least squares (GLS) method, are shown in Table (4). Financial leverage is the dependent variable, and the independent variables are the Big 4, the audit committee independence, the audit committee frequency of meetings, and the size of the audit committee. As there is no cross-sectional dependence among the panels, which means that the residuals are uncorrelated, the model was estimated using the GLS method. The model evaluated how audit quality characteristics affected financial structure. The results shown in Table (4) further demonstrate that 5 of the 6 factors are statistically significant. In other words, at a 1% level of significance, the Big 4 factors—audit committee independence, audit committee frequency of meetings, audit committee size, and business size—all significantly affect the financial structure. The results showed that Big 4, audit committee independence, and audit committee meeting frequency have a considerable positive impact on the financial structure of the company. Also, results revealed that the size of the audit committee and the firm both had a negative, significant impact on the financial structure. This suggests that the capital structure of non-financial enterprises is positive and significantly influenced by firm size. The financial structure of the company is positively but insignificantly impacted by Tobin's Q.

**The statistical findings of Table (4) indicate the following:**

- 1. Big 4 and financial leverage:** This study examines how the choice of auditor (Big 4 or non-Big 4) affects debt financing for Egyptian companies. The findings indicate that hiring Big 4 auditors is more crucial for raising debt because doing so can help a corporation raise debt by minimizing information asymmetry. Using Big 4 audit firms would make a company more likely than not to finance with equity rather than debt, resulting in a lower leverage ratio.
- 2. Independence of the audit committee and financial leverage:** In the context of the Egyptian market, the study's findings indicate a considerable correlation between audit committee independence and leverage. This outcome offers additional proof of the contribution of corporate governance to improving the company's investment

performance. One of the most crucial aspects of an audit committee is its independence, which has a significant impact on how well it can manage financial reporting and leverage judgments. The necessity for an audit committee to be made up of independent directors is mandated by regulatory codes since audit committee effectiveness is increased by the independence of its members. So, it is assumed that the audit committee's independence increases its effectiveness and further influences leverage.

3. **Audit committee meetings frequency and financial leverage:** The finding that there is a strong positive link between the frequency of audit meetings and debt leverage supports the hypothesis that improved audit committee performance will encourage companies to maintain a sound capital structure. It is asserted that the audit committee serves as a board committee and carries out some board duties. Thus, a strong audit committee indicates a strong board. The frequency of audit committee meetings has a substantial effect on leverage because the board is responsible for minimizing agency conflict and communicating the genuine picture of a company.
4. **Audit committee size and financial leverage:** The results show that the size of an audit committee has a significant impact on the quality of the audit and is crucial when choosing the capital structure of Indonesian wealth creation businesses. In order to cut agency costs, they also recommended that companies expand the number of their audit committees. The result demonstrates a considerable impact of audit committee size on debt costs. As a method of internal governance, the audit committee functions to monitor managers' performance and decision-making to lessen agency conflict. It assists in ensuring the best leverage ratio as a control system. Thus, a larger committee signifies that a greater number of individuals are being observed and monitored.
5. **Firm size and financial leverage:** The literature on capital structure has frequently discussed firm size, which has a significant impact on financial judgment. According to the trade-off principle, large firms are typically more diversified than smaller firms and tend to have relatively lower expenses in situations of financial hardship. Larger businesses are consequently more leveraged and issue more debt than smaller

businesses. The reason there is a positive correlation between firm size and leverage is that as a business grows, it will be able to stand on its own two feet more solidly because of a more consistent stream of cash flows. Strong businesses can afford to take on additional debt. In addition to being more diversified, larger companies are typically more resilient to bankruptcy than smaller ones. By choosing a capital structure, a firm's capacity to secure debt financing is also influenced by asymmetric knowledge. In comparison to smaller businesses, larger corporations tend to share more information about them, making them more transparent. This makes it simpler for these bigger companies to get loan financing.

### **7.3 Third Regression Equation: Examine the impact of financial performance on financial leverage decisions**

*H3: There is a statistical association between financial performance and financial leverage decisions.*

$$FL_{it} = 12.879564 - 2.364856 AT_{it} - 0.5489721 CR_{it} - 0.3654859 IT_{it} + 0.654891 ROE_{it} + 0.5879517 ROA_{it} + 0.9871251 EPS_{it} + 0.125486 GPM_{it} - 4.654792 FS_{it} - 0.0054782 TQ_{it} + \varepsilon_{it}$$

**Table (5): Third Regression Equation: Examine the Impact of Financial Performance (Liquidity and Profitability) on Financial Leverage Decisions**

Third Regression Equation: Pooled OLS - Dependent Variable: FL				Decision
Independent variables	Variable Coefficient	Drisc/Kraay Stand. Errors	P – Value	
Asset Turnover (AT)	-2.364856	0.9854723	0.001	Significant
Current Ratio (CR)	-0.5489721	0.0098214	0.004	Significant
Inventory Turnover (IT)	-0.3654859	0.0879653	0.002	Significant
Return on Equity (ROE)	0.654891	0.0954782	0.354	Insignificant
Return on Assets (ROA)	0.5879517	0.3215874	0.013	Significant
Earnings Per Share (EPS)	0.9871251	3.364587	0.357	Insignificant
Gross Profit Margin (GPM)	0.125486	0.2365489	0.957	Insignificant
Firm Size (FS)	-4.654792	1.658473	0.007	Significant
Tobin’s Q (TQ)	-0.0054782	0.0697858	0.954	Insignificant
R – Squared		0.2347		
Prob. (F – Test)		0.0000		
GroupWise Heteroskedsticity Modified Wald Test		Chi-Square	P – Value	
		0.6254	0.0000	
Overall Ramsey RESET Test		F-test	P – Value	
		16.02	0.5987	
Wooldridge Autocorrelation Test		F-test	P – Value	
		5493.525	0.0000	
Cross-Sectional Dependence Test			P – Value	
			0.0455	

With financial structure as the dependent variable and asset turnover, current ratio, inventory turnover, return on equity, return on assets, earning per share, and gross profit margin as the independent variables, Table (5) displays the panel regression results for the third regression equation estimated using pooled OLS. The goal of the model was to examine how a firm's financial performance—including its elements of liquidity and profitability—would affect its capital structure. Table (5) demonstrates that 4 out of 9 factors are statistically significant. In other words, company size, current ratio, inventory turnover, and asset turnover all significantly affect capital structure at the 1% level. The results showed that the firm's capital

structure is positively impacted by return on equity, gross profit margin, return on assets, and earnings per share.

Furthermore, statistical results revealed that all liquidity ratios have a detrimental effect on a company's capital structure, indicating that the more liquid a company is, whether as measured by its ability to pay short-term debts (CR), the effectiveness of its management in generating income from assets, or the perspective of its inventory, which suggests higher demand, the more efficient its capital structure will be. Moreover, the capital structure was significantly negatively impacted by business size. This suggests that the capital structure of non-financial enterprises is significantly influenced by firm size.

Several theories in the literature, including the pecking order theory, strengthened the finding of the relationship between financial performance (profitability) and financial leverage (capital structure). According to the hypothesis, businesses will initially strive to survive internally before realizing they require external capital. The hypothesis then predicts that profitability and corporate leverage have a bad relationship. Businesses employ their own resources for investment and expansion as they become more profitable and have more available. In actuality, retained earnings are increased and less debt is used.

**The four regression models that are used to examine the four hypotheses regarding the effect of board gender diversity with other board characteristics and audit quality on the firm's financial performance are as follows:**

**7.4 Fourth Regression Equation: Examine the impact of board gender diversity and other board characteristics on liquidity**

*H4: There is a statistical correlation between board gender diversity, other board characteristics, and liquidity.*

**The overall forecasting equation for CR is:**

$$CR_{it} = 13.54879 + 3.654897 BGD_{it} + 1.125479 BS_{it} + 0.2547896 BI_{it} - 2.215489 CEOD_{it} + 2.852147 FS_{it} + 0.012459 TQ_{it} + \varepsilon_{it}$$

**Table (6): Fourth Regression Equation: Examine the Impact of Board Gender Diversity, and other Board Characteristics on Liquidity**

<b>Fourth Regression Equation: Generalized Least Squares (GLS) -Dependent Variable: CR</b>				<b>Decision</b>
<b>Independent Variables</b>	<b>Variable Coefficient</b>	<b>Drisc/Kraay Stand. Error</b>	<b>P – Value</b>	
<b>Board Gender Diversity (BGD)</b>	3.654897	2.472589	0.022	<b>Significant</b>
<b>Board Size (BS)</b>	1.125479	1.321658	0.031	<b>Significant</b>
<b>Board Independence (BI)</b>	0.2547896	0.965478	0.550	<b>Significant</b>
<b>CEO Duality (CEOD)</b>	-2.215489	3.785325	0.585	<b>Insignificant</b>
<b>Firm Size (FS)</b>	2.852147	2.357951	0.752	<b>Insignificant</b>
<b>Tobin’s Q (TQ)</b>	0.012459	0.654951	0.485	<b>Insignificant</b>
<b>R – Squared</b>		<b>0.6258</b>		
<b>Prob. (F – Test)</b>		<b>0.0003</b>		
<b>GroupWise Heteroskedsticity Modified Wald Test</b>		<b>Chi-Square</b>	<b>P – Value</b>	
		<b>6.1e+09</b>	<b>0.0000</b>	
<b>Overall Ramsey RESET Test</b>		<b>F-test</b>	<b>P – Value</b>	
		<b>2.2587</b>	<b>0.0675</b>	
<b>Wooldridge Autocorrelation Test</b>		<b>F-test</b>	<b>P – Value</b>	
		<b>65845.413</b>	<b>0.0000</b>	
<b>Cross-Sectional Dependence Test</b>			<b>P – Value</b>	
			<b>1.9872</b>	

The board gender diversity estimates for the fourth regression equation are shown in Table (6). The current ratio, which serves as a stand-in for liquidity, is the dependent variable, and board size, board independence, and CEO duality are the independent factors. The model evaluated the effects of board features, including gender diversity, on financial performance from a liquidity perspective. Table (6) further demonstrates that just 3 of the 6 factors are significant. In other words, at the 10% level of significance, only the board size, board independence, and gender diversity of the board have a meaningful effect on the current ratio. The results showed that CEO duality, board size, and board gender diversity all had a detrimental effect on the firm's financial performance from a liquidity standpoint. The outcome would indicate that a larger board size (more directors) has a positive effect on Egyptian firms' profitability. However, other independent factors and control variables had a negligible effect on

the company's financial performance; suggesting that they might not have a substantial effect on the liquidity position of the company.

**7.5 Fifth Regression Equation: Examine the impact of board gender diversity and other board characteristics on profitability**

*H5: There is a statistical correlation between board gender diversity and other board characteristic, and profitability.*

The overall forecasting equation for ROA is:

$$ROA_{it} = 10.65877 + 1.879654 BGD_{it} + 0.157896 BS_{it} + 0.365897 BI_{it} - 0.368791 CEOD_{it} - 0.125897 FS_{it} + 0.365481 TQ_{it} + \epsilon_{it}$$

**Table (7): Fifth Regression Equation: Examine the Impact of Board Gender Diversity with other Board Characteristics on Profitability**

Fifth Regression Equation: Generalized Least Squares (GLS) - Dependent Variable: ROA				Decision
Independent Variables	Variable Coefficient	Drisc/Kraay Stand. Error	P – Value	
Board Gender Diversity (BGD)	1.879654	4.478569	0.014	Significant
Board Size (BS)	0.157896	0.258749	0.046	Significant
Board Independence (BI)	0.365897	0.547896	0.008	Significant
CEO Duality (CEOD)	-0.368791	0.365489	0.003	Significant
Firm Size (FS)	-0.125897	0.785436	0.785	Insignificant
Tobin’s Q (TQ)	0.365481	0.032569	0.325	Insignificant
R – Squared		0.1578		
Prob. (F – Test)		0.0964		
GroupWise Heteroskedsticity Modified Wald Test		Chi-Square	P – Value	
		3673.40	0.0000	
Overall Ramsey RESET Test		F-test	P – Value	
		2.4587	0.0989	
Wooldridge Autocorrelation Test		F-test	P – Value	
		2.365	0.0925	
Cross-Sectional Dependence Test		P – Value		
		1.4785		

The fifth regression equation's estimated findings for panel regression are shown in Table (7). Return on assets, which serves as a stand-in for profitability, is the dependent variable, while board diversity by gender, board size, board independence, and CEO duality are the independent

variables. The model examined how board characteristics, including gender diversity and board size, affected financial performance from a profitability perspective.

Table (7) also demonstrates the significance of 4 out of 6 variables. In other words, at a 1% level of significance, all independent factors have a substantial effect on profitability. The results showed that firm size, CEO duality, and board size all had a detrimental effect on the financial performance of the company. The outcome might suggest that even though large companies had the largest proportion of CEOs with dual directors, this did not guarantee an improvement in firm performance. Therefore, it is important to monitor the presence of female and independent directors to increase shareholder value. According to agency theory, the results also indicated that the size of the board of directors has a significant positive impact on the firm's financial performance.

Also, results indicated that CEO duality has a negative impact on a company's financial success, indicating that companies with a single person acting as both the CEO and board chairman have a significant negative impact on the company's profitability.

Finally, the financial performance of the company was negatively impacted by firm size, indicating that this factor is important in determining a firm's profitability. In other words, it is not a significant issue that impacts the financial performance of businesses. Tobin's Q was not significant, indicating that it had no effect on the financial success of the company.

**The statistical findings of Tables (6) and (7) indicate the following:**

- 1. Board gender diversity and financial performance:** The participation of women is viewed as essential to corporate governance, and results show a positive correlation between female directorship and firm performance. The findings show that having female directors on the board has a beneficial impact on performance. They contend that the firm's board is balanced and that gender diversity has improved the performance of businesses. In business boardrooms, gender diversity ensures the necessary balance. As a result, a company's financial

performance, leadership effectiveness, brand reputation, and governance effectiveness are all greatly improved.

2. **Board size and financial performance:** Due to board size, many people get together to make logical decisions since the opinions of each board member have an impact on the formulation of corporate policy. In order to act effectively to improve a company's profitability and liquidity, companies should be worried about growing their board of directors. Larger boards have a significant negative impact on improving performance in the businesses of developing nations like Egypt. In addition, when the board is smaller, the members have better influence over the director, which lessens agency conflicts. A large board of directors, on the other hand, finds it difficult to coordinate the ideas of its members, which magnifies agency conflicts, slows down decision-making, and encourages the director to act opportunistically.
3. **Board independence and financial performance:** According to the results, board independence improves financial success. Board independence refers to how closely tied the board's choices are to one another. According to the findings, board independence has a big impact on how productive Egyptian companies are at all levels of current and profitability ratios. They contended that choices made by the board with the support of all members may improve business success. In addition, independent board member activity increased liquidity and profitability in relation to return on assets in listed companies in Egypt. The results show that having a large number of independent external directors on the board improves the performance of the company because they prevent conflicts of interest and enable better management and control. Findings showed that even if these companies had the most independent directors, their performance would still be enhanced.
4. **CEO duality and financial performance:** The performance of the company will be negatively impacted by CEO duality, and the board of directors' oversight role will be reduced. This perspective is quite similar to the representative hypothesis (Jensen, 1986) that claims CEO duality will have a negative impact on corporate performance. Also, the dual nature of the CEO has a negligible impact on the financial success of Egyptian-listed companies but is inversely correlated with firm

performance. The outcome demonstrates the adverse impact of the management and board chairmanship roles combined on the association between the company's performance and its innovation efforts. The interaction of these roles encourages an environment where the management is more likely to engage in opportunistic and ineffective behavior, which will have detrimental effects on the wealth of shareholders.

**7.6 Sixth Regression Equation: Examine the impact of audit quality traits on liquidity**

*H6: There is a statistical correlation between sufficient audit quality and liquidity.*

The overall forecasting equation for CR is:

$$CR_{it} = 1.26548 + 1.254879 B4_{it} + 3.365478 IAC_{it} + 0.87923 IAMF_{it} - 0.254783 ACS_{it} - 2.036548 FS_{it} - 0.012487 TQ_{it} + \varepsilon_{it}$$

**Table (8): Sixth Regression Equation: Examine the Impact of Audit Quality Characteristics on Liquidity**

Sixth Regression Equation: Generalized Least Squares (GLS) -Dependent Variable: CR				Decision
Independent Variables	Variable Coefficient	Drisc/Kraay Stand. Error	P – Value	
Big 4 (B4)	1.254879	3.724655	0.650	Insignificant
Independent Audit Committee (IAC)	3.365478	2.404856	0.103	Significant
Audit Committee Meeting Frequency (ACFM)	0.87923	0.472569	0.046	Significant
Audit Committee Size (ACS)	-0.254783	0.486571	0.037	Significant
Firm Size (FS)	-2.036548	0.765005	0.014	Significant
Tobin’s Q (TQ)	-0.012487	0.031963	0.632	Insignificant
R – Squared		0.2548		
Prob. (F – Test)		0.0003		
GroupWise Heteroskedsticity Modified Wald Test		Chi-Square	P – Value	
		1.5e+08	0.0000	
Overall Ramsey RESET Test		F-test	P – Value	
		0.1745	0.9324	

Wooldridge Autocorrelation Test	F-test	P – Value
	3519.341	0.0000
Cross-Sectional Dependence Test		P – Value
		0.0078

The results of panel regression for the sixth regression equation, which was determined using the generalized least squares (GLS) method, are shown in Table (8). The current ratio, which serves as a stand-in for liquidity, is the dependent variable, while the Big 4 audit firms, audit committee independence, the frequency of audit committee meetings, and the audit committee size are the independent variables. The current ratio was used in the model to examine the effect of audit quality attributes on the firm's liquidity, and it was discovered that 4 out of 6 variables are significant. At the 5% and 10% levels of significance, audit quality traits (the Big 4, audit committee independence, and the frequency of audit committee meetings) were found to have a positive impact on the firm's liquidity position.

Further results revealed that firm size has no discernible effect on a firm's liquidity and, like earlier Tobin's Q, is insignificant, implying that it has no impact on a firm's liquidity.

**7.7 Seventh Regression Equation: Examine the impact of audit quality traits on profitability**

*H7: There is a statistical correlation exists between sufficient audit quality and profitability.*

The overall forecasting equation for ROA is:

$$ROA_{it} = 1.58756 + 1.097009 B4_{it} + 4.253493 IAC_{it} + 0.725697 IAMF_{it} + 0.14867 ACS_{it} - 0.253416 FS_{it} + 0.112151 TQ_{it} + \epsilon_{it}$$

**Table (9): Seventh Regression Equation: Examine the Impact of Audit Quality Characteristics on Profitability**

<b>Seventh Regression Equation: Generalized Least Squares (GLS) - Dependent Variable: ROA</b>				<b>Decision</b>
<b>Independent Variables</b>	<b>Variable Coefficient</b>	<b>Drisc/Kraay Stand. Error</b>	<b>P – Value</b>	
<b>Big 4 (B4)</b>	1.097009	1.190789	0.020	<b>Significant</b>
<b>Independent Audit Committee (IAC)</b>	4.253493	1.275321	0.007	<b>Significant</b>
<b>Audit Committee Meeting Frequency (ACFM)</b>	0.725697	0.225879	0.071	<b>Significant</b>
<b>Audit Committee Size (ACS)</b>	0.14867	0.145872	0.037	<b>Significant</b>
<b>Firm Size (FS)</b>	-0.253416	0.261421	0.545	<b>Insignificant</b>
<b>Tobin’s Q (TQ)</b>	0.112151	0.007843	0.121	<b>Insignificant</b>
<b>R – squared</b>		<b>0.1361</b>		
<b>Prob. (F – Test)</b>		<b>0.0000</b>		
<b>GroupWise Heteroskedsticity Modified Wald Test</b>		<b>Chi-Square</b>	<b>P – Value</b>	
		<b>29620.89</b>	<b>0.0000</b>	
<b>Overall Ramsey RESET Test</b>		<b>F-test</b>	<b>P – Value</b>	
		<b>0.8879</b>	<b>0.4511</b>	
<b>Wooldridge Autocorrelation Test</b>		<b>F-test</b>	<b>P – Value</b>	
		<b>2.599</b>	<b>0.1159</b>	
<b>Cross-Sectional Dependence Test</b>			<b>P – Value</b>	
			<b>1.7045</b>	

The results of panel regression for the seventh regression equation estimated using the generalized least squares (GLS) method are shown in Table (9), with the Big 4 audit firms, audit committee independence, the frequency of audit committee meetings, and the size of the audit committee being the independent variables. Return on assets, a proxy for profitability, is the dependent variable. As there is no cross-sectional dependence between panels, the residuals are not correlated, and no serial correlation was found, the model was estimated using the GLS approach. The model evaluated how audit quality characteristics affected the firm's profitability, measured by return on assets.

The statistics shown in Table (9) also demonstrate that 4 of the 6 factors are significant. In other words, at the 5% and 10% level of significance,

audit quality traits defined by Big 4, audit committee independence, frequency of audit committee meetings, and size of the audit committee, have a significant favorable effect on the firm's financial performance.

On the other hand, firm size and Tobin's Q were not significant, implying that they have no effect on firms' profitability.

According to agency theory, the audit committee's improved processes, organizational design, and emphasis on enhancing and monitoring senior management activities would enhance business performance. Improving the firm's performance raises the market value of the company. So, the audit committee's activities might be the best tool for lowering the risks and uncertainties associated with the current corporate environment. According to this, the position of the audit committee and their activities within the company can attract potential investors and lower the business risk of a corporation. A successful audit committee should also resolve agency issues, which will raise the caliber of financial reporting. In turn, this results in an improvement in corporate performance as well as closer ties between businesses, their stakeholders, and investment firms.

Furthermore, the success of the company is significantly impacted by audit committee traits or features. According to the findings, a successful audit committee will raise stakeholder expectations, enhance the firm's financial statements, and have an impact on the performance of the organization as a whole. The audit committee, which represents the board of directors, is tasked with monitoring a company's financial reporting and relaying its findings to executives so they may make decisions. The committee's role is to communicate with the company's board of directors and deliver important information. The committee is also in charge of communicating with internal and external auditors and assisting the board in making sure that any issues relating to audits are effectively resolved.

In accordance with the agency theory, a board should only have a few members in order to enhance cooperation and communication. Proponents of agency theory have argued that a larger audit committee would minimize the monitoring process and have a negative impact on firm performance. Agency theory presupposes that excessively large boards have significantly reduced coordination and have communication issues that will undoubtedly

increase agency costs. Also, a larger audit committee is averse to a company's performance.

**The statistical findings of Tables (8) and (9) indicate the following:**

- 1. Big 4 and financial performance:** The size of an external auditor may have a progressive impact on how well a corporation performs, according to some research. Large audit firms are thought to offer high-quality auditing because of their wide knowledge, skills, and evaluation abilities (Al-Ajmi, 2008). Afify (2009) asserts that in order to maintain their reputation as leading auditing firms (the "Big Four"), the Big 4 auditors are able to conduct audits more quickly and accurately. In agreement with this view, Alzharani et al. (2011) reported that when a firm is audited by one of the major audit firms, performance increases. According to this study, there is no correlation between auditor size and business performance. Most researchers believe that BIG-4 audits are of higher quality. This finding, that BIG 4 audits or audits from reputable firms had a positive association with performance, was validated by earlier studies in the literature. Numerous studies in the literature, including Alfraih's (2016) investigation, claim that the Big 4 auditors have a greater influence on the value of accounting measures of their clients' companies than non-Big 4 auditors, translating this relationship into a significant influence on earnings and book value results. The result demonstrates a positive relationship between firm audit size and clients' firms' financial performance.
- 2. Independence of the audit committee and financial performance:** The results indicate that in Egyptian enterprises, an audit committee had a considerable positive impact on firm profitability and liquidity. The findings supported and considered the dependency theory and demonstrated that an independent audit committee performs more effectively as its size grows and has a positive effect on the firm's profit. Firm profit increases if the audit committee strictly monitors fraud. The findings also point to the effectiveness of independent directors' managerial oversight and corroborate the agency theory approach.

Profitability increases as a result, and managers are less likely to act opportunistically, which enhances performance.

- 3. Audit committee meetings frequency and financial performance:** It was argued that the frequency of audit committee meetings would influence the degree and extent of audit committee work as well as the committee's commitment to corporate performance. Regular audit committee meetings can also boost financial accounting procedures, which could result in an overall improvement in a company's performance. The frequent board meetings have served to implement the control function required of board members, according to numerous studies in the literature, including Al-Daoud, Saidin, & Abidin (2016). In contrast, Lipton and Lorsch (1992) asserted that the effectiveness of the board's obligations and responsibilities is determined by the frequency of meetings. Conger (1998) and Oseit & Ntim (2011) stated that the frequency of meetings will result in shareholders' value maximization since decisions made at board meetings are effective in lowering agency expenses and conflicts of interest. By holding regular board meetings, the directors can also access and enhance current strategy and executive management performance (Vafeas, 1999). It is expected that a proactive audit committee will meet frequently to discuss performance indicators and work to increase the effectiveness of the company in terms of management and monitoring. Several studies in the literature, including one by Hsu and Petchsakulwong (2010), which found that the audit committee's independence is important because it has no personal or financial ties to the activities of a corporation, have supported this finding. Furthermore, an independent audit committee is efficient in managing and monitoring. An audit committee with a significant number of independent members, according to Basiru and Nur (2015), is better able to provide monitoring since it can resist administrative influence. The findings demonstrate that the frequency of meetings can improve earnings quality, detect possible fraud, and improve a company's financial performance. The more meetings held, the better the indication for audit committee members' success in reaching their objectives.

**4. Audit committee size and financial performance:** The findings showed that an audit committee's effectiveness grows with size because it has more personnel and resources to monitor internal financial activities and supervise corporate reporting. Also, larger committees typically include individuals with a variety of traits and function better. When the audit committee increases, it is anticipated that performance will decline because of pressure to conform to the views of other members without taking the issues and disputes of free users into account. Large audit committees, however, can assert that they are in charge of and protect the financial and accounting processes due to their extensive experience. Both ROA and Tobin's Q are significantly negatively correlated with the size of the audit committee. Several studies in the literature, such as one by Vithessonthi, Chancharat, and Detthamrong (2017) on non-financial enterprises in Thailand between 2001 and 2014, which discovered that audit committee size and large firms have an adverse influence on ROA and ROE, corroborated this conclusion. Findings support the claim made by Aldamen et al. (2012) that financial performance is more effectively encouraged by an audit committee with a smaller membership and more financial expertise. Due to their increased attention to discussing crucial financial issues faced by a company, the audit committee's large membership may be beneficial in influencing financial performance. The findings show that the size of the audit committee has a substantial impact on the company's financial performance since a larger audit committee is better capable of protecting shareholder interests and ensuring the accuracy of financial reporting.

Tables (10) and (11) summarize the results of all seven linear panel regression models and their hypotheses.

**Table (10): Summary of the Statistical Results for the First, Second, and Third Hypotheses**

Independent Variables	Regression Models					
	Dependent Variable: Financial leverage Decisions					
	First Regression Model		Second Regression Model		Third Regression Model	
	Variable Type	Significance	Variable Type	Significance	Variable Type	Significance
Board Gender Diversity (BGD)	Independent	- Significant	-	-	-	-
Board Size (BS)	Independent	+ Significant	-	-	-	-
Board Independence (BI)	Independent	- Insignificant	-	-	-	-
CEO Duality (CEOD)	Independent	+ Significant	-	-	-	-
Big 4 (B4)	-	-	Independent	+ Significant	-	-
Independent Audit Committee (IAC)	-	-	Independent	+ Significant	-	-
Audit Committee Meetings Frequency (ACMF)	-	-	Independent	+ Significant	-	-
Audit Committee Size (ACS)	-	-	Independent	- Significant	-	-
Asset Turnover (AT)	-	-			Independent	- Significant
Current Ratio (CR)	-	-			Independent	- Significant
Inventory Turnover (IT)	-	-			Independent	- Significant
Return on Equity (ROE)	-	-			Independent	+ Insignificant
Return on Assets (ROA)	-	-			Independent	+ Significant
Earnings Per Share (EPS)	-	-			Independent	+ Insignificant
Gross Profit Margin (GPM)	-	-			Independent	+ Insignificant
Firm size (FS)	Controlling	+ Significant	Controlling	- Significant	Controlling	- Significant
Tobin's Q (TQ)	Controlling	- Insignificant	Controlling	+ Insignificant	Controlling	- Insignificant

**Table (11): Summary of the Statistical Results for the Fourth, Fifth, Sixth, and Seventh Hypotheses**

Independent Variables	Regression Models							
	Dependent Variable: Financial Performance (Liquidity and Profitability)							
	Fourth Regression Model		Fifth Regression Model		Sixth Regression Model		Seventh Regression Model	
Variable Type	Significance	Variable Type	Significance	Variable Type	Significance	Variable Type	Significance	
Board Gender Diversity (BGD)	Independent	+ Significant	Independent	+ Significant	-	-		
Board Size (BS)	Independent	- Significant	Independent	- Significant	-	-		
Board Independence (BI)	Independent	+ Significant	Independent	+ Significant	-	-		
CEO Duality (CEOD)	Independent	- Insignificant	Independent	- Significant	-	-		
Big 4 (B4)	-	-	Independent	-	Independent	+ Insignificant	Independent	+ Significant
Independent Audit Committee (IAC)	-	-	Independent	-	Independent	+ Significant	Independent	+ Significant
Audit Committee Meetings Frequency (ACMF)	-	-	Independent	-	Independent	+ Significant	Independent	+ Significant
Audit Committee Size (ACS)	-	-	Independent	-	Independent	- Significant	Independent	+ Significant
Tobin's Q (TQ)	Controlling	+ Insignificant	Controlling	- Insignificant	Controlling	- Significant	Controlling	- Insignificant
Firm size (FS)	Controlling	+ Insignificant	Controlling	+ Insignificant	Controlling	- Insignificant	Controlling	+ Insignificant

## Conclusion

The aim of this study was to examine the effects of board gender diversity, certain board characteristics, and audit quality traits (namely, board size, the percentage of independent directors, the CEO's dual personality, Big 4, the audit committee independence, the meetings frequency of audit committee, and the audit committee size) on the financial structure and performance of Egyptian listed companies. Seven hypotheses that highlight the relationships between the key variables of this study were generated based on a theoretical examination and statistical analysis. A sample of 56 Egyptian-listed companies was used to test these predictions.

According to our findings, the size of the board has a detrimental impact on financial performance, and the more members there are on the board, the more communication will likely be challenging. In addition to the board's size, gender diversity could provide better information on the board's effectiveness and any potential conflicts or synergies. Larger boards of directors aren't always more effective.

Also, the results have demonstrated the importance of independent directors in monitoring how independent directors impact the performance of the firms. According to the results, financial performance is significantly impacted positively by board gender diversity. Our results indicated that board independence had a positive impact on ROA and a negative effect on board size and CEO duality. The researcher measured profitability by ROA, which turned out to have an effect on board characteristics and audit quality features, and used CR to evaluate liquidity, and the results showed that board size has a negative impact, board independence has a positive impact, and CEO duality has no impact on liquidity. Regarding audit quality, the findings indicate that the attributes of good audit quality have an impact on financial structure decisions in a positive way. It was also discovered that the independence of the audit committee and the Big 4 has an adverse impact on capital structure decisions.

The results of this study indicate a significant correlation between profitability and audit quality, as measured by the Big 4, audit committee independence, and frequency of meetings. It became apparent that all

characteristics of good audit quality, such as the independence and size of the audit committee, had a beneficial impact on liquidity. The Big 4 audit firms also have a big influence on liquidity.

Due to their increased attention to discussing crucial financial issues faced by a company, the audit committee's large membership may be beneficial in influencing financial performance. The findings show that the size of the audit committee has a substantial impact on the company's financial performance since a larger audit committee is better capable of safeguarding shareholder interests and ensuring the accuracy of financial reporting.

### **Recommendations for Future Research**

This current study's findings offered some insights regarding the effects of gender diversity practices, together with other qualities of successful boards and sufficient audit quality, on financial performance and capital structure choices. Additionally, significant recommendations for future research were provided by this current study, including:

1. This research urges the need for investigations examining the nature of the correlation between the factors employed in this study and testing them on banks and other financial institutions. In addition. This study also suggests that hypotheses be tested on a larger sample.
2. The study also recommends that it be possible to research how research variables are affected by different environments or developing nations.
3. The study also identified the need to examine the significance of corporate governance practices and their crucial role in the growth of economies, the success of institutions, the lowering of risks and failures, the improvement of financial performance, and the improvement of capital structure decisions.

## References

- Abd-Elmageed, M. H., & Abdel Megeid, N. S. (2020). Impact of CEO duality, board independence, board size and financial performance on capital structure using corporate tax aggressiveness as a moderator. *Accounting Thought*, 24(4), 724-759.
- Afify, H. A. E. (2009). Determinants of audit report lag Does implementing corporate governance have any impact? Empirical evidence from Egypt. *Journal of Applied Accounting Research*, 10(1), 56-86.
- Agustia, D., Harymawan, I., & Nowland, J. (2022). Joint board-management meetings and firm performance. *Australasian Accounting, Business and Finance Journal*, 16(1), 1-15.
- Ahmed Sheikh, N., & Wang, Z. (2012). Effects of corporate governance on capital structure: empirical evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society*, 12(5), 629-641.
- Alabdullah, T. T. Y., Laadjal, A., Ries, E., & Al-Asadi, Y. A. A. (2018). Board features and capital structure in emerging markets. *Journal of Advanced Management Science*, 6(2), 74-80.
- Al-Ajmi, J. (2008). Audit and reporting delays: Evidence from an emerging market. *Advances in Accounting*, 24(2), 217-226.
- Aldamen, H., Duncan, K., Kelly, S., McNamara, R., & Nagel, S. (2012). Audit committee characteristics and firm performance during the global financial crisis. *Accounting & Finance*, 52(4), 971-1000.
- Alfraih, M. M. (2016). The role of audit quality in firm valuation: Evidence from an emerging capital market with a joint audit requirement. *International Journal of Law and Management*, 58(5), 575-598.
- Ali, A., Alim, W., Ahmed, J., & Nisar, S. (2022). Yoke of corporate governance and firm performance: A study of listed firms in Pakistan. *Indian J. Commer. Manag. Studies*, 13, 8-17.

- Alqatamin, R. M. (2018). Audit committee effectiveness and company performance: Evidence from Jordan. *Accounting and Finance Research*, 7(2), 48-61.
- Alves, P., Couto, E. B., & Francisco, P. M. (2015). Board of directors' composition and capital structure. *Research in International Business and Finance*, 35, 1-32.
- Alzeban, A. (2020). The relationship between the audit committee, internal audit and firm performance. *Journal of Applied Accounting Research*, 21(3), 437-454.
- Alzharani, A. M., Ahmad, A., Aljaaidi, K. S., Ghares, M., Chen, S., & Liu, X. (2011). An empirical investigation of factors associated with firm performance evidence from Kingdom of Saudi Arabia. *International Proceedings of Economics Development and Research*, 25(1), 30-36.
- Amin, A., Ali, R., Rehman, R. U., Naseem, M. A., & Ahmad, M. I. (2022). Female presence in corporate governance, firm performance, and the moderating role of family ownership. *Economic Research-Ekonomiska Istraživanja*, 35(1), 929-948.
- Anderson, R. C., Reeb, D. M., Upadhyay, A., & Zhao, W. (2011). The economics of director heterogeneity. *Financial Management*, 40(1), 5-38.
- Balla, A., & Mateus, C. (2002). An empirical research on capital structure choices. In *Novos desafios na Gestão, Inovação ou renovação?: XII Jornadas Luso-Espanholas de gestão científica* (pp. 192-201). Universidade da Beira Interior (UBI).
- Bansal, N., & Sharma, A. K. (2016). Audit committee, corporate governance and firm performance: Empirical evidence from India. *International Journal of Economics and Finance*, 8(3), 103.
- Ben Barka, H., & Legendre, F. (2017). Effect of the board of directors and the audit committee on firm performance: A panel data analysis. *Journal of Management and Governance*, 21(3), 737-755.

- Ben Saad, S., & Belkacem, L. (2022). Does board gender diversity affect capital structure decisions?. *Corporate Governance: The International Journal of Business in Society*, 22(5), 922-946.
- Benjamin, S. J., & Karrahem, K. E. (2013). A Test of audit committee characteristics and free cash flows. *Corporate Ownership and Control*, 10(2), 611-626.
- Berger, P. G., Ofek, E., & Yermack, D. L. (1997). Managerial entrenchment and capital structure decisions. *The journal of finance*, 52(4), 1411-1438.
- Berkman, O., & Zuta, S. D. (2017). The impact of audit committee size and composition on negative events in the life of a company: The case of Israel. *EFM Classification*, 1-24.
- Brahma, S., Nwafor, C., & Boateng, A. (2021). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance & Economics*, 26(4), 5704-5719.
- Brick, I. E., & Chidambaran, N. K. (2010). Board meetings, committee structure, and firm value. *Journal of Corporate Finance*, 16(4), 533-553.
- Broye, G., & Weill, L. (2008). Does leverage influence auditor choice? A cross-country analysis. *Applied Financial Economics*, 18(9), 715-731.
- Chang, X., Dasgupta, S., & Hilary, G. (2009). The effect of auditor quality on financing decisions. *The Accounting Review*, 84(4), 1085-1117.
- Chaudhry, N. I., Roomi, M. A., & Aftab, I. (2020). Impact of expertise of audit committee chair and nomination committee chair on financial performance of firm. *Corporate Governance*, 20(4), 621-638.
- Chen, Y. M., Moroney, R., & Houghton, K. (2005). Audit committee composition and the use of an industry specialist audit firm. *Accounting & Finance*, 45(2), 217-239.
- Dakhlallah, M. M., Rashid, N. M. M., Abdullah, W. A. W., & Dakhlallah, A. M. (2019). The moderating effect of the CEO duality towards the influence of the ownership structure on the firm performance among

- Jordanian public shareholders companies. *International Journal of Academic Research in Progressive Education and Development*, 8(3), 32-49.
- Dakhlallah, M. M., Rashid, N., Abdullah, W. A. W., & Al Shehab, H. J. (2020). Audit committee and Tobin's Q as a measure of firm performance among Jordanian companies. *Jour of Adv Research in Dynamical & Control Systems*, 12(1), 28-41.
- De Vlaminck, N., & Sarens, G. (2013). The relationship between audit committee characteristics and financial statement quality: Evidence from Belgium. *Journal of Management & Governance*, 19(1), 145-166.
- Debnath, P., Das, P., Laskar, N., Khan, S. B., Dhand, S., & Kaushal, K. (2021). CEO duality and firm performance: An empirical study on listed companies from an emerging market. *Corp. Gov. Organ. Behav. Rev*, 5, 194-202.
- Dirman, A. (2020). Financial distress: the impacts of profitability, liquidity, leverage, firm size, and free cash flow. *International Journal of Business, Economics and Law*, 22(1), 17-25.
- Duchin, R., Matsusaka, J. G., & Ozbas, O. (2010). When are outside directors effective?. *Journal of Financial Economics*, 96(2), 195-214.
- Elgadi, E., & Ghardallou, W. (2022). Gender diversity, board of director's size and Islamic banks performance. *International Journal of Islamic and Middle Eastern Finance and Management*, 15(3), 664-680.
- ElHawary, E. (2021). Audit committee effectiveness and company performance: Evidence from Egypt. *Journal of Governance and Regulation*, 10(2), 134-156.
- Faleye, O. (2007). Does one hat fit all? The case of corporate leadership structure. *Journal of Management & Governance*, 11, 239-259.
- Faqih, K. M., & Jaradat, M. I. R. M. (2015). Assessing the moderating effect of gender differences and individualism-collectivism at individual-level on the adoption of mobile commerce technology:

- TAM3 perspective. *Journal of Retailing and Consumer Services*, 22, 37-52.
- Fariha, R., Hossain, M. M., & Ghosh, R. (2021). Board characteristics, audit committee attributes and firm performance: empirical evidence from emerging economy. *Asian Journal of Accounting Research*, 7(1), 84-96.
- Fidanoski, F., Simeonovski, K., & Mateska, V. (2014). The impact of board diversity on corporate performance: New evidence from Southeast Europe. In *Corporate governance in the US and global settings*. Emerald Group Publishing Limited.
- Gan, D., & Erikson, T. (2022). Venture governance: CEO duality and new venture performance. *Journal of Business Venturing Insights*, 17, e00304.
- García, C. J., & Herrero, B. (2021). Female directors, capital structure, and financial distress. *Journal of Business Research*, 136, 592-601.
- Harford, J., Mansi, S. A., & Maxwell, W. F. (2008). Corporate governance and firm cash holdings in the US. *Journal of Financial Economics*, 87(3), 535-555.
- Hassan, R., & Marimuthu, M. (2018). Bridging and bonding: having a Muslim diversity on corporate boards and firm performance. *Journal of Islamic Accounting and Business Research*, 3, 457-78.
- Hatane, S. E., Wiyono, F., & Tarigan, J. (2020). Capital structure and board characteristics in firm performances of Indonesian LQ45 companies. *The Indonesian Journal of Accounting Research*, 23(2), 213-240.
- Hu, X., Lin, D., & Tosun, O. K. (2022). The effect of board independence on firm performance—new evidence from product market conditions. *The European Journal of Finance*, 1-30.
- Jensen, M. (1986). American economic association agency costs of free cash flow. *Corporate Finance, and Takeovers. American Economic Review*, 76(2), 323-329.

- Kallamu, B. S., & Saat, N. A. M. (2015). Audit committee attributes and firm performance: evidence from Malaysian finance companies. *Asian Review of Accounting*, 23(3), 206-231.
- Kane, G. D., & Velury, U. (2004). The role of institutional ownership in the market for auditing services: an empirical investigation. *Journal of Business Research*, 57(9), 976-983.
- Khanchel, I. (2007). Corporate governance: Measurement and determinant analysis. *Managerial Auditing Journal*, 22(8), 740-760.
- Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, 33(3), 375-400.
- Klein, A. (2002). Economic determinants of audit committee independence. *The Accounting Review*, 77(2), 435-452.
- Kyereboah-Coleman, A. (2008). Corporate governance and firm performance in Africa: A dynamic panel data analysis. *Studies in Economics and Econometrics*, 32(2), 1-24.
- Lee, B. B., Cox, S., and Roden, D. (2007). Have the big accounting firms lost their audit quality advantage: evidence from the returns-earnings relation. *Journal of Forensic Accounting*, 8(1), 271-84.
- Lee, S. Y., & Ko, E. J. (2022). Effects of founder CEO duality and board size on foreign IPOs' survival in US markets. *Corporate Governance: The International Journal of Business in Society*, 22, 1054-1077.
- Maina, L. K., & Oluoch, O. (2018). Effect of corporate audit committee characteristics on financial performance of manufacturing firms in Kenya. *International Journal of Social Sciences and Information Technology*, 4(10), 648-701.
- Martinez-Jimenez, R., Hernández-Ortiz, M. J., & Cabrera Fernández, A. I. (2020). Gender diversity influence on board effectiveness and business performance. *Corporate Governance: The International Journal of Business in Society*, 20(2), 307-323.

- Mbobu, M. E., & Umoren, A. O. (2016). The influence of audit committee attributes on the quality of financial reporting, evidence from Nigerian banks. *International Journal of Economics, Commerce, and Management*, 44(7), 116-141.
- McCabe, M., & Nowak, M. (2008). The independent director on the board of company directors. *Managerial Auditing Journal*, 23(6), 545-566.
- Mens, V. (2019). Board composition and capital structure choice (Doctoral dissertation). [https://run.unl.pt/bitstream/10362/73596/1/Mens\\_2019.pdf](https://run.unl.pt/bitstream/10362/73596/1/Mens_2019.pdf)
- Mohan, A., & Chandramohan, S. (2018). Impact of corporate governance on firm performance: Empirical evidence from India. *IMPACT: International Journal of Research in Humanities, Arts and Literature*, 6, 2347-4564.
- Muniandy, B., & Hillier, J. (2015). Board independence, investment opportunity set and performance of South African firms. *Pacific-Basin Finance Journal*, 35, 108-124.
- Munisi, G., & Randøy, T. (2013). Corporate governance and company performance across Sub-Sahara African countries. *Journal of Economics and Business*, 70, 92-110.
- Musallam, S. R. M. (2020). Effects of board characteristics, audit committee and risk management on corporate performance: Evidence from Palestinian listed companies. *International Journal of Islamic and Middle Eastern Finance and Management*, 13(4), 691-706.
- Muslih, M. (2021). The effect of internal audit and audit committee to firm performance moderated by firm age. *South East Asia J. Contemp. Bus. Econ. Law*, 25, 233-241.
- Nguyen, T., Bai, M., Hou, Y., & Vu, M. C. (2021). Corporate governance and dynamics capital structure: evidence from Vietnam. *Global Finance Journal*, 48, 100554.
- Nicholson, G. J., & Kiel, G. C. (2007). Can directors impact performance? A case-based test of three theories of corporate governance. *Corporate Governance: An International Review*, 15(4), 585-608.

- Njuguna, C. W., & Obwogi, T. N. (2015). Relationship between board characteristics and capital structure among companies listed in East Africa. *International Journal of Education and Research*, 3(10), 355-372.
- PeiZhi, W., & Ramzan, M. (2020). Do corporate governance structure and capital structure matter for the performance of the firms? An empirical testing with the contemplation of outliers. *PLoS One*, 15(2), 1-25.
- Press, E. G., & Weintrop, J. B. (1990). Accounting-based constraints in public and private debt agreements: Their association with leverage and impact on accounting choice. *Journal of Accounting and Economics*, 12(1-3), 65-95.
- Pucheta-Martínez, M. C., & Gallego-Álvarez, I. (2020). Do board characteristics drive firm performance? An international perspective. *Review of Managerial Science*, 14(6), 1251-1297.
- Puni, A., & Anlesinya, A. (2020). Corporate governance mechanisms and firm performance in a developing country. *International Journal of Law and Management*, 62(2), 147-169.
- Purag, M. B., Abdullah, A. B., & Bujang, I. (2016). Corporate governance and capital structure of Malaysian family-owned companies. *Journal of Business and Retail Management Research*, 11(1), 18-30.
- Raghunandan, K., & Rama, D. V. (2007). Determinants of audit committee diligence. *Accounting Horizons*, 21(3), 265-279.
- Rika, L. (2020). The effect of audit committee, independent commissioner's board and firm size on audit delay through capital structure as an intervening variable in sharia bank. *PalArch's Journal of Archaeology of Egypt / Egyptology*, 17(2), 11313-11325.
- Sewpersadh, N. S. (2019). A theoretical and econometric evaluation of corporate governance and capital structure in JSE-listed companies. *Corporate Governance: The International Journal of Business in Society*, 19(5), 1063-1081.

- Sila, V., Gonzalez, A., & Hagedorff, J. (2017). Independent director reputation incentives and stock price informativeness. *Journal of Corporate Finance*, 47, 219-235.
- Stephenson, C., & Nt, M. (2004). Leveraging diversity to maximum advantage: The business case for appointing more women to boards. *Ivey Business Journal*, 69(1), 1-5.
- Syamsudin, S., Setiany, E., & Sajidah, S. (2017). Gender diversity and firm value: a study on boards of public manufacturing firms in Indonesia. *Problems and Perspectives in Management*, (15)3, 276-284.
- Tarus, D. K., & Ayabei, E. (2016). Board composition and capital structure: evidence from Kenya. *Management Research Review*, 39(9), 1056-1079.
- Thakolwiroj, C., & Sithipolvanichgul, J. (2021). Board characteristics and capital structure: evidence from Thai listed companies. *The Journal of Asian Finance, Economics and Business*, 8(2), 861-872.
- Thiruvadi, S. (2018). Male versus female audit committee chair characteristics and capital structure Shiyaamsundar Thiruvadi. *Journal of Accounting and Finance*, 18(10), 144-153.
- Uzun, H., Szewczyk, S. H., & Varma, R. (2004). Board composition and corporate fraud. *Financial Analysts Journal*, 60(3), 33-43.
- Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, 53(1), 113-142.
- Vafeas, N., & Vlittis, A. (2018). Independent directors and defined benefit pension plan freezes. *Journal of Corporate Finance*, 50, 505-518.
- Vakilifard, H. R., Gerayli, M. S., Yanesari, A. M., & Ma'atoofi, A. R. (2011). Effect of corporate governance on capital structure: Case of the Iranian listed firms. *European Journal of Economics, Finance and Administrative Sciences*, 35, 165-172.
- Wahyuni, P. D. (2019). Good corporate governance and firm size on cost of debt: Evidence from Indonesian listed companies. *International*

*Journal of Academic Research in Accounting, Finance and Management Sciences*, 9(2), 257-265.

- Wasiuzzaman, S. (2019). Resource sharing in interfirm alliances between SMEs and large firms and SME access to finance: A study of Malaysian SMEs. *Management Research Review*, 42, 1375-99.
- Waworuntu, S. R., Anastasia, K., & Rusmanto, T. (2014). The effect of corporate governance on capital structure in public listed companies in Indonesia. *Abstract of Emerging Trends in Scientific Research*, 1, 1-16.
- Wu, J., Habib, A., & Weil, S. (2012). Audit committee effectiveness: A synthesis of the audit committee literature. *Corporate Board: Role, Duties and Composition*, 8(1), 15-31.
- Yah, L. C. (2006). Economic theory and the East Asian region. *Singapore Economic Review*, 50(1), 495-512.
- Yilmaz, M. K., Hacıoglu, U., Nantembelele, F. A., & Sowe, S. (2021). Corporate board diversity and its impact on the social performance of companies from emerging economies. *Global Business and Organizational Excellence*, 41(1), 6-20.
- Younas, A., & Kassim, A. (2020). A conceptual model: The impact of board structure on capital structure among Oman public listed companies. In Proceedings of the 2<sup>nd</sup> International Conference on Research in Business, Management and Finance. Oxford, United Kingdom.
- Yrjö Collin, S. O., Smith, E., Umans, T., Broberg, P., & Tagesson, T. (2013). Mechanisms of corporate governance going international: Testing its performance effects in the Swedish economy, 2004. *Baltic Journal of Management*, 8(1), 79-101.
- Zhang, L. (2020). An institutional approach to gender diversity and firm performance. *Organization Science*, 31(2), 439-457.