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**IMPACT OF CORPORATE GOVERNANCE
PRACTICE AND AUDIT QUALITY ON
CAPITAL STRUCTURE DECISIONS AND
FINANCIAL PERFORMANCE
“Evidence from Egypt”**

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Abstract

The purpose of this research is to investigate the effect of Corporate Governance Practice (CGP) and Audit Quality (AQ) on capital structure decisions and financial performance of Egyptian firms listed on the Egyptian stock exchange. Accounting-based measures such as return on assets, current ratio, and leverage were used to evaluate capital structure decisions and financial performance, as well as independence, board size, CEO duality, audit committee independence, BIG 4 and firm size, and Tobin's Q as control variables. Secondary data from financial statements, board of director's reports, and corporate governance reports were used in the study. The research sample consists of 36 non-financial companies listed on the 100 ESG index from 2015 to 2021.

The data is analysed using panel data regression. The research findings revealed a negative relationship between Board size and capital structure, a positive relationship between CEO duality and capital structure, no relationship between board independence and capital structure, a positive relationship between audit committee independence and capital structure, a positive relationship between Big 4 and capital structure, a positive relationship between profitability (ROA) and capital structure, and a negative relationship between board independence and capital structure. This is in reference to the variable's relationship to the capital structure.

Regarding financial performance, the research discovered a negative relationship between Board independence and profitability, a positive relationship between board size and profitability, a positive relationship between CEO duality and profitability, a negative relationship between board size and liquidity, a positive relationship between (independence of audit committee, Big 4, Board size) and profitability, and a positive relationship between independence of audit committee and profitability.

Keywords: Corporate governance practice; Audit quality; capital structure decisions; Financial performance; Egypt.

Introduction

The purpose of this research is to look into the influence of Corporate Governance Practices (CGP) and Audit Quality (AQ) on capital structure decisions and financial performance in Egypt. It is a unique example of an emerging or transition economy. Egypt, for example, reformed the Egypt Code of Corporate Governance: Guidelines and Standards in October 2005 in response to the growing interest in (CG). The rules of this code cover a wide range of corporate governance topics, including boards of directors, audit committees, internal audit departments, external auditors, social policy disclosure, and conflict of interest avoidance. The corporate governance rules outlined in the Egypt Code of (CG): Standards and guidelines are neither mandatory nor legally binding. Rather, the goal of these rules is to promote responsible and transparent corporate management behavior in accordance with international best practices and through means that strike a balance between various parties' interests (Soliman, 2012).

The dependability of financial statements is determined by audit quality, implying an indirect relationship between audit quality and financial performance. Shareholders and potential shareholders use annual financial reports to make investment and disinvestment decisions. Inaccuracy in financial reporting will cause shareholders and prospective investors to form incorrect opinions about the organization (Rachael & Okolocha, 2019). Researchers have long been interested by the relationship between audit quality and financial performance. The goal of this research is to see how audit quality affects the financial performance of publicly traded firms in developing capital markets, using Egypt as a case study.

2. Literature Review

2.1 Impact of Corporate Governance Practice on Capital Structure

Corporate Governance (CG) and Capital Structure (CS) have piqued the public's interest as a tool for socioeconomic growth. When there is good corporate governance and capital structure in place, there will also be competent and efficient business entity administration. There will be fewer company failures, a weak internal control system, a weak corporate structure, and management and labor indiscipline as a result of this. Corporations with poor governance endanger not only themselves but also others, and they have

the potential to destabilize capital markets. Several recent studies have focused on the systematic relationship between capital structure decisions and CGP.

Corporate governance is positively correlated with capital structure (Kennedy et al., 2015). Leverage, as a capital structure measure, demonstrates the relationship between long-term liabilities and shareholder equity and can be a useful tool for implementing corporate governance. To create value, shareholders' equity should be greater than long-term liabilities, according to corporate governance principles. Firms with a larger board membership have a lower leverage or debt ratio, and they assumed that a larger board size translates into strong corporate board pressure compelling managers to pursue lower leverage due to improved monitoring. Outside directors are more prevalent in firms with higher leverage. Firm size influences capital structure, according to (Brigham & Houston, 2011) because larger firms have more loans. The size of a company will influence its borrowing policy. A large company with a good public reputation will have more loans as a source of funding. The goal is to increase firm value while lowering firm capital costs.

2.1.1 Board Independence and Capital Structure

(BI) and (CS), as measured by total debt ratio, have a positive relationship (Jaradat, 2015; Tarus & Ayabei, 2016). A body of literature, on the other hand, discovered that as the proportion of external directors on corporate boards increases, firms' total debt ratio decreases (Dimitropoulos, 2014; Kyriazopoulos, 2017). Independent outside directors strengthen the monitoring role of the board of directors, reduce information asymmetry, and improve firms' ability to secure significant amounts of debt capital to increase firm value (Tarus & Ayabei, 2016). As a result, according to some studies, companies with a higher proportion of independent directors on their boards have a more leveraged (CS) position (Jaradat, 2015). The relationship between (BI) and (CS) of Nigerian non-financial listed firms was investigated by (Abdullahi & Mohd, 2021). Over a seven-year period, the researchers used the random effects technique to analyze balanced panel data from 56 Nigerian publicly traded companies (2012-2018). According to this study, higher levels of institutional ownership improve the effect of (BI) on firm leverage and vice versa. As a result, this finding implies that stringent monitoring, in conjunction with the diligent supervision and expertise of the independent directors, may increase creditors' confidence, resulting in the provision of more leverage.

2.1.2 Board Size and Capital Structure

In terms of the number of chief executives, the board of directors is a critical component of corporate governance because it regulates the company's operational effectiveness and suitability. This element is critical in mitigating corporate failure, according to (Chancharat et al., 2012). Companies with more directors, according to (Jensen, 1986), have more leverage to reduce agency costs. The existence of a positive relationship between two elements, top executive number and leverage, appears to support companies' decision to appoint more directors in order to benefit from their directors' network and external financing access. This study's findings were followed by those of (Abor, 2007) and (Bokpin, 2009), who discovered a relationship between the number of directors and leverage. These findings imply that having more a larger number of chief executives on a company's board of directors increases its leverage and value.

In contrast, (Berger et al., 1997) discovered that the number of top executives has a negative impact on financial leverage. This finding was followed by (Wiwattanakantang, 1999; Anderson et al., 2004). According to (Yermack, 1996), the more directors on the board, the less efficient management supervision, because more directors result in more complex coordination and decision making among them, resulting in an increase in the company's debt ratio and the addition of risky assets. Several significant contributions to the capital structure literatures have been made by researchers.

2.1.3 CEO Duality and Capital Structure

The CEO advocated for greater clout and acting in the best interests of the shareholders. (Fosberg, 2004) reported a significant relationship between CEO duality and leverage, arguing that a CEO's dual role employs more leverages to gain a competitive advantage. Another study discovered a link between (CEOD) and debt (Abor, 2007). Another researcher, on the other hand, proposed a positive relationship between CEO duality and firm debt, arguing that dual-role CEOs should prefer to use more leverage over the owner's equity (Bokpin & Arko, 2009).

(CEOD) influences firm performance by maximizing the executive's powers and managerial abilities, according to the agency and stewardship theories. Furthermore, empirical support is provided for a positive

relationship between (CEOD) and capital structure, with capital structure discovered to be a negative mediating factor between (CEOD) and firm performance. Second, a previously unknown relationship between (CEOD) and market competition was discovered. Market competition has also been found to mitigate the impact of (CEOD) on firm performance (Riaqa et al., 2020).

Previous scholars have stated that (CEOD) facilitates the rise of low-quality financial information, profit manipulation, the generation of opportunistic actions, and the undermining of the executive board's efficiency (Gupta et al., 2018); additionally, (Jensen, 1993) stated that (CEOD) creates opportunities for the CEO to maximize their wealth rather than the firm's stakeholders. As a result, (CEOD) is a sign of poor governance in both agency theory and managerial power. Furthermore, some researchers believe that CEO duality can increase firm debt and that there is a positive and significant relationship between CEO duality and leverage (Bokpin & Arko, 2009).

Based on the previous illustrated literature, the researchers formed the following hypothesis:

H1. There is a positive association between corporate governance practice and capital structure decisions.

2.2 Impact Corporate Governance Practice on Financial Performance

The performance of a company is the result of its efforts to maximize its resources. When making decisions for investors and other stakeholders such as managers, creditors, employees, and the state, firm performance is an important factor to consider (Vieira et al., 2019). Financial ratios that can be used to assess a company's performance include profitability, liquidity, solvency, and activity. Profitability is the primary concern of investors and analysts, according to (Prihadi, 2013). This is inextricably linked to one of the primary goals of starting a business: profit. Profitability consistency measures a company's ability to survive and compete in its industry. Several studies employ Tobin's Q to assess a company's financial performance in terms of its potential market value (Al-Ahdal et al., 2020).

According to (Rony et al., 2022), implementing corporate governance is one of the strategies for improving the company's financial performance and overcoming agency problems. Good corporate governance will streamline

business processes, improve operational performance, and reduce capital expenditures, resulting in higher sales and profits (International Finance Corporation, 2018). Good (CG), according to (Handayani, 2017), can boost profits while lowering the risk of future losses.

The adoption of good corporate governance (CG) is expected to improve corporate governance by making it more orderly, effective, and efficient. When corporate governance is properly implemented, firm performance improves, allowing the company to profit and compete.

Strong governance leads to improved financial performance and increased shareholder wealth. Similarly, (Jensen & Meckling, 1976) (CG) is a control tool that ensures top management and administration are working to maximize owner wealth. In addition to owners, non-executive directors play a role in the corporate governance system. However, greater managerial ownership and ownership concentration improve organizational performance and maximize shareholder wealth through effective decisions. The firm's performance and distress are also influenced by its ownership structure and board structure.

2.2.1 Impact Corporate Governance Practice on Profitability

Corporate governance is a critical concept for economic development. When good (CGP) practices are followed, the organization runs efficiently and effectively. A strong corporate governance structure reduces corporate failure and risk while increasing business profitability. Good (CG) helps with effective system control and monitoring, management practice improvement, and full utilization of firm resources. As a result, (CG) contributes to the firm's performance improvement. According to (Cheema & Din, 2013), board size is positively related to profitability, whereas CEO duality is negatively related to profitability. (Narwal & Jindal, 2015) was a survey of Indian manufacturing companies. The study discovered that director remuneration was related to profitability in a positive way.

The goal of forming a corporation is to maximize profit for shareholders. Profits will allow the company to pay dividends to shareholders, increase company growth, and ensure the company's long-term viability. However, in order to achieve these goals, the company will always face obstacles and problems, both external and internal. Cases that have occurred (Enron, PT); Both of these cases have similarities, namely fraud committed by an internal company seeking profit at the expense of the company. Cases of (CG) implementation in a company are expected to reduce and prevent various

risks that may be carried out by the company's management that could harm the company. The relationship between (CG) and profitability is achieved through improved corporate performance, which leaves a favorable impression on investors, allowing the company to increase its ability to generate high profits (Azmy, 2019).

Based on the previous illustrated literature, the researchers formed the following hypothesis:

H2. There is a positive association between corporate governance practice and profitability.

2.2.2 Impact Corporate Governance Practice on Liquidity

(CG) is defined as the process and structure of directing and managing business affairs for profit (Zabri et al, 2016). Determine the relationship between corporate governance and firm performance. Individual companies should benefit from sound (CGP) through improved financial opportunities, lower cost of capital, easier provision of funds in international financial markets, a better chance of overcoming crisis periods, and increased liquidity. Effective working capital policies should be developed concurrently with the recognition of (CGP) (Najib et al., 2019).

Liquidity is a critical issue that all commercial units should continue to investigate and consider as one of their primary responsibilities. According to some authors, liquidity is critical because firms with low or no profitability can serve the economy, but firms with no liquidity cannot (Nassirzadeh & Rostami, 2010). A company's ability to repay its short-term liabilities, known as liquidity, is critical to the smooth operation of a business. Because of its impact on firms' day-to-day operations, liquidity analysis is extremely useful for both external and internal analysts.

Based on the previous illustrated literature, the researchers formed the following hypothesis:

H3. There is a positive association between corporate governance practice and liquidity.

2.3 Impact of Audit Quality on Capital Structure

According to De Angelo (1981), audit quality is divided into two categories: detecting and reporting material misstatements and errors in financial statements. The auditor's ability to detect and report material misstatements (technical capabilities) determines audit quality (auditor independence). According to research, companies audited by the Big 4 are more likely to issue equity rather than debt (Chang et al., 2009). According to, auditors with industry expertise appear to charge higher audit fees, implying higher audit quality (Reichelt & Wang, 2010).

According to (Chang et al., 2009), the integrity of a firm's financial statements is critical to the functioning of capital markets. Large audit firms typically provide a higher level of (AQ) in exchange for higher audit fees. Higher audit fees imply that audit quality should reduce agency conflicts between managers and outsiders, influencing a firm's capital structure decision. Audit fees are related to leverage in a positive way. We also show that firms that pay higher audit fees are more likely to issue debt rather than equity. Overall audit quality is important in determining the firm's capital structure (Anmol et al., 2015).

2.3.1 Independence of Audit Committee and Capital Structure

The audit committee acts as an independent variable that can interact with the capital structure. The audit committee can help a company with a low capital structure improve its earnings quality. With the presence of an (AC), the company's (CS) is low, and the quality of its earnings is high. With more audit committees in the company, company funding decisions will be better, such as issuing new shares rather than debt, because debt financing will be detrimental to shareholders due to increased interest expenses. Increasing interest expenses reduces company profits and reduces dividends paid to shareholders (Agoestina, 2021).

According to (Kajananthan, 2012), board independence is positively related to financial leverage decisions. He demonstrated that board independence director's supervisory performance significantly reduces conflict between shareholders and company directors. As a result, effectively managed corporations will have a higher creditworthiness, allowing for more debt to be borrowed. The findings are consistent with those of (Siromi & Chandrapala, 2017), who discovered a positive relationship between firms outside directors and (CS). The confirmed result demonstrates a significant

positive relationship between the proportion of outside directors and the decision to use financial leverage. He discovered that the presence of outside directors will help the firm attract more external resources from lenders by indicating that the firm is being controlled. Board independence provides valuable information and knowledge to company executives.

Boards with more outside directors outperformed other firms, according to (Kajanathan, 2012). In contrast, (Achchuthan et al., 2013) found no link between board independence and firm leverage decisions. Some researchers, however, discovered that board director independence has a negative impact on the leverage ratio (Adegbile, 2015; Uwuigbe, 2014).

2.3.2 Big 4 and Capital Structure

Access to debt financing is critical to the success of businesses, which are vital to the economy. Despite significant external financing frictions, private firms must compete with public firms in debt raising. Using a Big 4 auditor increases the likelihood that both private and public companies will raise debt. Big 4 auditors are more important in private firms for debt raising than in public firms, which is consistent with the fact that private firms face more information asymmetry (Wen et al., 2022). Previous research has shown that one mechanism for reducing information asymmetry is the appointment of high-quality, usually Big4, audit firms, which are expected to increase the credibility of financial statements (Choi & Wong, 2007; Fan & Wong, 2005).

While insights from (CS) theory in developed countries can be applied to emerging countries, differences necessitate country-specific testing of theories, according to (Booth et al., 2001). This finding supports the argument that appointing a higher quality (Big4) audit firm increases the perceived credibility of financial statements, thereby reducing perceived information asymmetry, and suggests that this argument holds even in a low litigation risk setting such as Indonesia, where (Big4) can only enter the market through affiliation with a local audit firm, that the appointment of a local auditor affiliated with an international (particularly Big4) audit firm reduces perceived information asymmetry, thereby assisting companies in optimizing their (CS) and financing their growth.

(Chang et al, 2009) show that firms audited by the Big4 auditors can raise significant amounts of equity, resulting in low debt in the capital structure. Firms audited by the Big4 are more likely to issue equity rather than debt than firms audited by smaller audit firms. According to, auditors with industry expertise appear to charge higher audit fees, implying higher (AQ) (Reichelt

&Wang, 2010). Surprisingly, audit fees have only a minor impact on capital structure. Because more than 75% of US companies use three high-quality auditors, appointing a Big4 auditor is expected to reduce information asymmetry and thus improve private firms' ability to raise debt in comparison to public firms.

Based on the previous illustrated literature, the researchers formed the following hypothesis:

H4. There is a positive association between audit quality and capital structure.

2.4 Impact Audit Quality on Financial Performance

Audit quality is defined as the likelihood that the external auditor will detect and report any violations in the client's accounting system (De Angelo, 1981). This is dependent on the auditor's technical ability to detect misreporting and his independence to report any discovered errors. Accountants, according to the code of professional conduct, play an important role in society. In order to maintain public trust, they are expected to use professional and moral judgement in their role-related activities. As a result, the quality of auditing services is perceived to be higher when the auditor is independent and can critically evaluate the financial reporting of client firms. These capabilities are founded on values like auditor ethics, knowledge, and experience (IAASB, 2013). An independent quality audit promotes trust in the credibility and integrity of financial statements, which is necessary for well-functioning markets and improved financial performance. External audits conducted in accordance with high-quality auditing standards can encourage reporting entities to adopt accounting standards and contribute to the reliability, transparency, and usefulness of their financial statements. Audits can help companies strengthen their corporate governance, risk management, and internal control, all of which contribute to financial performance (Amahalu et al., 2020).

(Matoke & Omwenga, 2016) investigated the (AQ) and (FP) of Nairobi Securities Exchange-listed companies. The information was gathered from both primary and secondary sources by the researchers. While primary data was gathered through a semi-structured questionnaire, secondary data was gathered from selected State Corporations published annual reports. Multiple regressions were used to analyze the collected data. According to the findings, (AQ) has a positive and significant impact on (FP).

(Chen et al., 2013) investigated the relationship between (AQ), audit firm size, and (FP). Secondary data from annual reports of Taiwanese audit firms were used. The samples for the study were compiled using cross-sectional and time series data. A correlation analysis was carried out. The findings revealed a link between audit firm size and audit quality, as well as a positive relationship between (AQ) and (FP)

2.4.1 Impact Audit Quality on Profitability

(Matoke & Omwenga, 2016) investigate the relationship between (AQ) and (FP) in Kenyan listed firms using auditor independence, auditor size, audit team attributes, auditor experience, and net profit margin as proxies. The data was analyzed in the study using multiple linear regression analysis. Audit quality has a positive and significant effect on financial performance, according to the study's findings; the greater the degree of auditor independence, the more likely the firm is to be profitable.

According to (Reyad, 2012), the study of audit quality is always associated with the quality of financial statements. According to (Doyle et al., 2007), the quality of information in financial statements can be low for two reasons. The first explanation is that management purposefully reports skewed accruals because of earnings management. The second explanation is that accrual valuation errors are caused by difficulties in recording, difficulties in predicting future events, or by weak controls that result in errors in reporting data.

The benefits and competitive advantages of audit quality, particularly audit conducted by the Big Four public accountants, demonstrate the role of moderation of (AQ) in the relationship between company profitability and firm value (Anggita, 2020).

Based on the previous illustrated literature, the researchers formed the following hypothesis:

H5. There is a positive association between corporate governance practice and profitability.

2.4.2 Impact Audit Quality on Liquidity

The ability of a company to pay short-term obligations is defined as liquidity. Liquidity is defined as a company's ability to obtain the most cash in the shortest amount of time in order to meet its obligations, and it is based on cash flow as well as components of assets and current liabilities. If the company's liquidity is deemed insufficient to pay its creditors, the auditor may issue a going concern audit opinion in conjunction with the liquidity of the going concern audit opinion (Noverio & Dewayanto, 2011; Fitriani et al., 2017).

It was concluded that high-quality audits are effective tools for supervising managers and reducing capital providers' information risk based on the critical role of independent external auditors (Fredriksson et al., 2020). As a result, high audit quality levels can reduce information asymmetry, moral hazard, and adverse selection costs between auditees and capital providers. With less information asymmetry, capital providers can offer lower-cost external financing to auditees who have high-quality audits, causing them to hold less cash. Companies that are vulnerable to liquidity shocks and uncertain cash flows, financial risks, high volatile cash flows, and high idiosyncratic and market-wide risks are more likely to reserve more cash (Benlemlih et al., 2018). Liquidity has no significant negative effect on the going concern audit opinion, according to the findings of a study conducted by (Fitriani et al., 2017) on the influence of auditor quality, liquidity, profitability, and solvency on the going concern audit opinion on companies listed on Indonesian stock exchanges. The current ratio assesses a company's ability to balance its short-term liabilities and current assets. The current ratio measures a company's ability to meet its short-term financial obligations. A lower current ratio, on the other hand, indicates that the company's ability to meet short-term financial obligations is impaired.

Based on the previous illustrated literature, the researchers formed the following hypothesis:

H6. There is a positive association between corporate governance practice and liquidity.

2.5 Impact of Financial Performance on Capital Structure Decisions

(Amjed, 2007) investigated the relationship between (CS) and enterprise (FP) in Pakistan's textile industry from 1999 to 2004. The sample included 100 companies listed on the Karachi Stock Exchange The (ROA) was the dependent variable, and the independent variables were short-term debt, long-term debt, and total debt. The relationship between short-term debt and profit was positive and significant, whereas the relationship between long-term debt and profit was negative and significant. Because short-term debt lowers capital costs, incorporating more of it into the capital structure increases profits. Long-term debt, on the other hand, raises costs, so the higher a company's long-term debt, the lower the rate of return it receives.

(Pratheepkanth, 2011) investigated 30 Sri Lankan firms that traded on the Colombo Stock Exchange between 2005 and 2009. According to the findings, there is an inverse relationship between (CS) and (FP). According to the study, many businesses in Sri Lanka rely on debt and pay a high price for it. (Khan, 2012) investigated the connection between financial leverage and enterprise financial performance. The sample included 36 Pakistani companies from 2003 to 2009. The dependent variables in the study were (ROA), gross margin, and Tobin's Q, while the independent variables were short-term debt to total assets and total debt to total assets.

(Doan, 2014) investigated the effect of (CS) on (FP) of businesses following privatization. There are 217 companies in the dataset that went public on Vietnamese stock exchanges between 2007 and 2012. In this study, the independent variables are short-term debt, long-term debt, total debt, and performance indicators such as (ROA) and (ROE). With a 1% significance level, the study discovered a negative relationship between (CS) and business results. Long-term debt has a statistically positive impact on enterprise after-equitization business performance as measured by ROA and ROE, while short-term debt and total debt have a statistically negative impact.

(Le, 2017) used audited financial statements from 219 listed industry companies on the Vietnam stock exchange between 2010 and 2015 to investigate the effect of (CS) on (FP). The study employed two research methods on panel data: correlation analysis and regression analysis. The dependent variable is the (ROE), and the independent variables are the size, (CS), solvency, asset structure, and growth rates. The study found that (CS) has a positive impact on firm performance across all production groups. According to the author, capital decisions have a negative impact on corporate performance.

Based on the previous illustrated literature, the researchers formed the following hypothesis:

H7. There is a positive association between financial performance and capital structure.

3. Research Problem

The problem of this research is that, according to the researchers, it is the one of the few studies that tested the impact of (CG) characteristics on the (CSD) and financial performance in Egypt. The studies that dealt with the capital structure are still limited and scarce in Egypt in particular; Therefore, this research attempts to fill the existing research gap in this field by examining the impact of the characteristics of (CG) on the capital structure decisions and (FP) in companies. This research 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 research seeks to identify the extent to which there is a relationship between the elements of (CG) and the (CS) in the Egyptian companies listed on the stock exchange, in addition to knowing the impact of some basic characteristics of companies such as size, age, profits, and types of capital formation.

4. Research Objectives and Questions

The primary seven-fold objectives of this research are as follows:

1. To investigate the relationship between corporate governance practices and capital structure of Egyptian listed companies.
2. To investigate the relationship between corporate governance practices and financial performance (profitability) of Egyptian listed companies.
3. To investigate the relationship between corporate governance practices and financial performance (liquidity) of Egyptian listed companies.
4. To investigate the relationship between audit quality and capital structure of Egyptian listed companies.
5. To investigate the relationship between audit quality and financial performance (profitability) of Egyptian listed companies.
6. To investigate the relationship between audit quality and financial performance (liquidity) of Egyptian listed companies.

7. To investigate the relationship between financial performance (profitability and liquidity) and capital structure of Egyptian listed companies.

The findings could answer the following seven major research questions:

RQ1. What is the impact of corporate governance practices on (CSD) of Egyptian listed companies?

RQ2. What is the impact of corporate governance practices on financial performance (profitability) of Egyptian listed companies?

RQ3. What is the impact of corporate governance practices on financial performance (liquidity) of Egyptian listed companies?

RQ4. What is the impact of audit quality on (CSD) of Egyptian listed companies?

RQ5. What is the impact of audit quality on financial performance (profitability) of Egyptian listed companies?

RQ6. What is the impact of audit quality on financial performance (liquidity) of Egyptian listed companies?

RQ7. What is the impact of financial performance (profitability and liquidity) on (CSD) of Egyptian listed companies?

5. Research Theoretical Framework

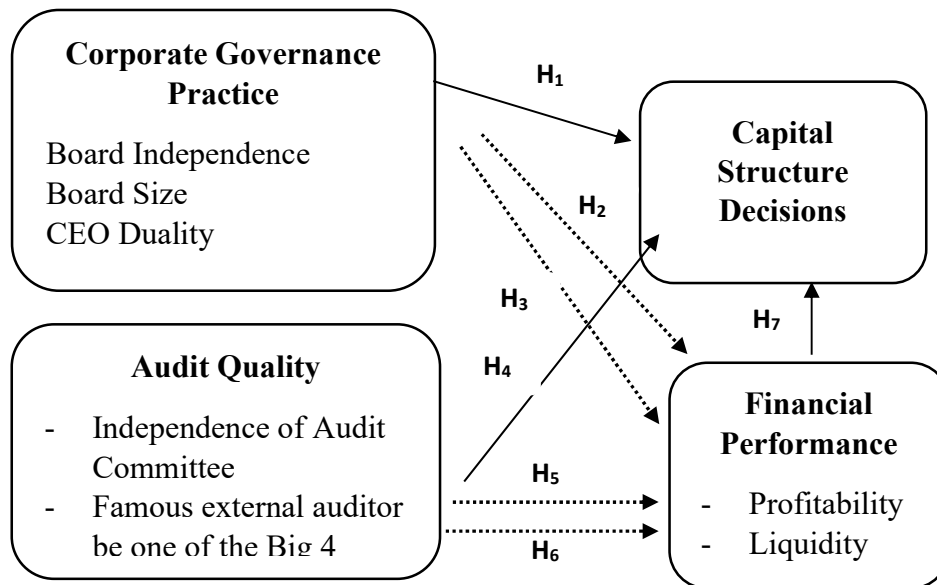
The research used a quantitative research design to investigate the relationship between corporate governance practices and audit quality on capital structure decisions and financial performance in Egypt (Makanga, 2012). Experimental or descriptive research methods can be used in quantitative studies. The research used an experimental research strategy to assess the validity of a theory by observing if the researcher-controlled independent variable has an impact on the dependent variable (Campbell, 1963). A panel quantitative research approach was used in the study. Because the study's data consisted of panels that had been translated into ratios, this research strategy was preferred. The study design is appropriate for studies that call for both

the longitudinal and cross-sectional properties of the units being researched (Gujarati, 2003).

In this research, two independent variables - namely (CGP) and (AQ) - influence the dependent variables, (CSD) and (FP) of the company.

Figure (1) presents the research theoretical framework and shows the board independence, board size, managerial ownership, and CEO duality used as proxies for the corporate governance practices and independence of audit committee and external auditor be one of the Big 4 as a proxy for (AQ) affect both the firm financial decisions and its financial performance (profitability and liquidity).

Figure (1): Research Theoretical Framework



6. Research Methodology

6.1 Research Population and Sample

The research population included all non-financial firms listed on Egypt's Securities Exchange EGX 100 from 2015 to 2021. The Egyptian exchange market now has 100 firms listed (EGX100): Chemicals, Financial services excluding Banks, Food and Beverage, Healthcare and Pharmaceuticals, Real Estate, Media, Construction Materials, Industrial Goods and Services, Automobiles, Personal and Household Products, Technology, Telecommunication, Travel and Leisure, and Basic Resources are the sectors represented by the EGX 100. However, this research excluded firms in the banking sector because they are subject to strict regulations regarding capital holdings and liquidity operations, which results in different financial statements than non-financial firms.

Because this heterogeneity makes hypothesis testing for the study difficult (Mwangi et al., 2014), 77 non-financial firms listed on the EGX 100 from 2015 to 2021 were chosen. However, due to missing data and strict requirements for all required financial statements from non-financial firms, the research's sample size is limited to 36 non-financial firms. As a result, the research population will be all Egyptian stock exchange listed companies, and the sample will be based on data from 36 Egyptian Stock Exchange Market listed firms. As a result, all of the companies on this index have good governance and reporting processes. This research will take place between 2015 and 2021. To test hypotheses, analyze data, and interpret results, the Statistical Package for Social Sciences (SPSS) will be used.

6.2 Data Collection

The research made use of secondary data as well as panel data, which included time series and cross sections. The data for all variables in the research were derived from published annual reports and financial statements of EGX-listed companies from 2015 to 2021. Table (1) presents the research sample sector distribution of the 36 companies used in this research.

Table (1): The Research Sample Sector Distribution

Company Sector	Number
Real estate	5
Chemicals and oils	2
Construction materials	5
Food and beverages	5
Industrial Goods, Services and Automobiles	10
Telecommunication	2
Travel and leisure	3
Technology	4
Total	36

6.3 Regression Models

The statistical relationship between (CG) mechanisms, (AQ) and firm (CS) and financial performance was tested using the following *four multiple regression models*:

- 1. Corporate governance mechanisms** are measured by summing up the three variables, i.e., board independence, board size and CEO Duality.
- 2. Audit quality:** is measured by summing up the two variables, i.e., audit committee independence and Big 4 audit firms.
- 3. Capital structure: *financial leverage*** is measured by debt-to-equity ratio.
- 4. Financial performance: *profitability*** is measured by return on asset, return on equity, gross profit margin and earnings per share. ***Liquidity*** is measured by current ratio, asset turnover and inventory turnover.

6.3.1 First regression model, adopted to investigate the impact of corporate governance mechanisms related to board characteristics on capital structure

H1. There is a positive association between corporate governance practice and capital structure decisions.

To test the first hypothesis, the following regression model was stated:

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = β_1, β_2 and β_3 = denotes regression coefficient of Corporate Governance Practices (CGP): Board Independence (BI), Board Size (BS), and CEO duality (CEOD).

β_4 and β_5 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Capital Structure (CS).

It = Firm i in period t .

ε_{it} = Standard error term.

6.3.2 Second regression model, adopted to investigate the impact of corporate governance mechanisms related to board characteristics on financial performance (profitability)

H2. There is a positive association between corporate governance practice and Profitability.

To test the second hypothesis, the following regression model was stated:

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = $\beta_1, \beta_2, \text{ and } \beta_3$ = denotes regression coefficient of Corporate Governance Practices (CGP): Board Independence (BI), Board Size (BS) and CEO duality (CEOD).

β_4 and β_5 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Financial Performance: Profitability measured by Return on Assets (ROA).

It = Firm i in period t.

ϵ_{it} = Standard error term.

6.3.3 Third regression model, adopted to investigate the impact of corporate governance mechanisms related to board characteristics on financial performance (liquidity)

H3. There is a positive association between corporate governance practice and liquidity.

To test the third hypothesis, the following regression model was stated:

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = $\beta_1, \beta_2, \text{ and } \beta_3$ = denotes regression coefficient of Corporate Governance Practices (CGP): Board Independence (BI), Board Size (BS) and CEO duality (CEOD).

β_4 and β_5 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Financial Performance: Liquidity measured by current ratio (CR).

It = Firm i in period t.

ϵ_{it} = Standard error term.

6.3.4 Fourth regression model, adopted to investigate the impact of audit quality on capital structure

H4. There is a positive association between audit quality and capital structure.

To test the fourth hypothesis, the following regression model was stated:

$$CS_{it} = \beta_0 + \beta_1 IAC_{it} + \beta_2 B4_{it} + \beta_3 TQ_{it} + \beta_4 FS_{it} + \varepsilon_{it}$$

Where:

β_0 = denotes a constant of the regression model.

Independent variables = β_1 and β_2 = denotes regression coefficient of audit quality (AQ): Independence of Audit Committee (IAC) and Big 4 (B4).

β_3 and β_4 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Capital Structure (CS).

It = Firm i in period t.

ε_{it} = Standard error term.

6.3.5 Fifth regression model, adopted to investigate the impact of audit quality on financial performance (profitability)

H5. There is a positive association between audit quality and profitability.

To test the fifth hypothesis, the following regression model was stated:

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = β_1 and β_2 = denotes regression coefficient of audit quality (AQ): Independence of Audit Committee (IAC) and Big 4 (B4).

β_3 and β_4 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Financial Performance: Profitability measured by Return on Assets (ROA).

It = Firm i in period t.

ε_{it} = Standard error term.

6.3.6 Sixth regression model, adopted to investigate the impact of audit quality on financial performance (liquidity)

H6. There is a positive association between audit quality and liquidity.

To test the sixth hypothesis, the following regression model was stated:

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = β_1 and β_2 = denotes regression coefficient of audit quality (AQ): Independence of Audit Committee (IAC) and Big 4 (B4).

β_3 and β_4 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Financial Performance: liquidity measured by current ratio (CR).

It = Firm i in period t.

ε_{it} = Standard error term.

6.3.7 Seventh regression model, adopted to investigate the impact of financial performance on capital structure

H7. There is a positive association between financial performance and capital structure decisions.

To test the seventh hypothesis, the following regression model was stated:

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = $\beta_1, \beta_2, \beta_3$ and β_4 = denotes regression coefficient of financial performance: profitability: Return on Assets (ROA), Return on Equity (ROE), Gross Profit Margin (GPM) and Earnings per Share (EPS).

β_5, β_6 and β_7 = denotes regression coefficient of financial performance: liquidity: current ratio (CR), Asset Turnover (AT), Inventory Turnover (IT).

β_8 and β_9 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Capital Structure (CS).

It = Firm i in period t.

ϵ_{it} = Standard error term.

6.4 Variables Definition and Measurement

The variables considered in the research were Corporate Governance Practices (CGP): Board Independence (BI), Board Size (BS), and CEO Duality (CEOD), Audit Quality (AQ): Independence of Audit Committee (IAC) and Big 4 (B4), Capital Structure (CS).

The ***firm's profitability*** was measured using (4) different ratios, which are Return on Assets (ROA), Return on Equity (ROE), Gross Profit Margin (GPM), Earnings per Share (EPS).

The firm's ***liquidity position*** was measured by other (3) different ratios current ratio that represent the available liquidity of the firm to cover any short-term obligations (CR), Asset Turnover (AT) that measures the efficiency of firm management to generate revenues from assets invested, and Inventory Turnover (IT) that indicates the number of times the inventory rolls within the firm where higher ratio indicates higher demand and thus higher sales which reflected on higher liquidity and vice versa.

Because firm size is viewed as a significant factor that can affect the firm's relationship with its external environment, the research takes firm size into account, measuring it using the natural log of total assets as a control variable in addition to Tobin's Q (TQ).

The definition and measurement of dependent, independent and control variables used in the four regression models are shown in table (1).

Table (2): Definition and Measurement of Research Dependent, Independent and Control Variables

	Variables	Definition	Ratio
Independent Variable: Corporate Governance Practices (CGP)	Board Independence (BI)	The number of non-executives, outside directors currently serving on the board is directly proportional to the board's independence.	The number of independent directors on the board is divided by the total number of directors on the board to calculate BI (%).
	Board Size (BS)	The total number of directors present on the board is referred to as the board size.	The number of board members is denoted by BS, which is equal to the total number of board members.
	CEO Duality (CEOD)	CEO duality occurs when the same person serves as both the CEO and the chairwoman of a corporation's board of directors.	CEO Duality is measured as a dummy variable, with a value of 1 indicating CEO duality and a value of 0 indicating no CEO duality.
Independent Variable: Audit Quality (AQ)	Audit Committee Independence (ACI)	A board-level committee of a public-sector organization made up of at least a majority of independent members tasked with overseeing management practices in critical governance areas.	The audit committee's independence is determined by how long its members have been firm directors. This committee is given (1) if it is entirely made up of non-executive members; however, if not all of the members are non-executive; it is given (0).
	Auditor Type (BIG4)	The Big Four network firms –	BIG4 is a dummy variable used to

		KPMG, EY, PwC, and Deloitte.	evaluate audit quality; 1 if audited by one of the Big 4 audit firms, 0 otherwise.
Dependent Variable:	Capital Structure (CS)	Leverage is a metric used to assess a company's ability to fund corporate assets through creditors.	When raising funds for operations, financial leverage is a measure of a company's debt-to-equity ratio. The debt-to-equity ratio is used to calculate financial leverage and shows the proportion of debt to equity in a company.
	Financial Performance (FP) Profitability: Return on Assets (ROA)	Financial performance is a subjective measure of a company's ability to generate revenue by utilizing assets from its primary mode of operation.	The return on assets (ROA) is calculated by dividing net profit by average assets. Return on assets, as the name suggests, assists a company in determining how effectively its assets are being used to increase profitability.
	Return on Equity (ROE)	ROE is regarded as a measure of a company's profitability and efficiency in profit generation. The higher the ROE, the better management's ability to generate income and growth from equity financing.	Return on equity (ROE) is a financial performance metric calculated by dividing net income by shareholders' equity, which equals assets minus debt for a company.

	Gross Profit Margin (GPM)	Analysts calculate the amount of money left over after deducting the cost of goods sold from product sales to assess a company's financial health (COGS). The gross profit margin, also referred to as the gross margin ratio, is typically expressed as a percentage of sales.	The gross profit margin as a percentage is calculated by dividing this figure by net sales.
	Earnings per Share (EPS)	The earnings per share (EPS) of a company are calculated by dividing its profit by the number of outstanding shares of common stock. The resulting figure denotes a company's profitability.	Earnings per share computed by dividing net income (also known as profits or earnings) by the number of shares available.
	Liquidity: Current Ratio (CR)	A liquidity ratio that measures a company's ability to pay short-term or one-year obligations is the current ratio.	Analysts compute the ratio by comparing a company's current assets to its current liabilities.
	Asset Turnover (AT)	The asset turnover ratio compares the value of a company's sales or revenues to its assets. The asset turnover ratio assesses how well a company uses its assets to generate revenue. The higher	$\text{Net Sales} / \text{Average Total Assets} = \text{Asset Turnover Ratio}$ <p>A company's net sales are the total amount of revenue retained.</p>

		a company's asset turnover ratio, the more efficient it is at generating revenue from its assets. A low asset turnover ratio, on the other hand, indicates that a company's assets are not being used efficiently to generate sales.	
	Inventory Turnover (IT)	Inventory turnover is a financial ratio that shows how many times a company's inventory was turned over in relation to its cost of goods sold (COGS) over a specific time.	The inventory turnover ratio calculates how many times your average inventory is "turned" or sold over a given period.
Control Variables	Market Performance (MP): Tobin's Q (TQ)	The Q ratio, also known as Tobin's Q, is a company's market value divided by its asset replacement cost.	Tobin's Q (Q ratio) = market value of equity + book value of debt ÷ total assets.
	Firm Size (FS)	The size of a company is determined by its income, total assets, and total equity.	Sales, employees, assets, and value-added features can all be used to calculate a company's size. Total assets as of the end of year t, expressed as a natural logarithm.

7. Statistical Results Analysis

7.1 Effect of corporate governance practices and audit quality and firm`s financial performance on capital structure

The first 3 regression models designed to test the 3 hypotheses regarding the effect of corporate governance practices and audit quality and firm`s financial performance on capital structure are as follows:

Model 1A: Test the impact of corporate governance mechanisms related to board characteristics on capital structure.

H₁: There is a positive association between corporate governance practice and capital structure decisions.

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = β_1 , β_2 and β_3 = denotes regression coefficient of Corporate Governance Practices (CGP): Board Independence (BI), Board Size (BS), and CEO duality (CEOD).

β_4 and β_5 = denotes regression coefficient of control variables: Tobin`s Q (TQ) and Firm Size (FS).

Dependent variable = Capital Structure (CS).

It = Firm i in period t.

ε_{it} = Standard error term.

Model 1B: Test the impact of impact of audit quality on capital structure.

H₄: There is a positive association between audit quality and capital structure.

$$CS_{it} = \beta_0 + \beta_1 IAC_{it} + \beta_2 B4_{it} + \beta_3 TQ_{it} + \beta_4 FS_{it} + \varepsilon_{it}$$

Where:

β_0 = denotes a constant of the regression model.

Independent variables = β_1 and β_2 = denotes regression coefficient of audit quality (AQ): Independence of Audit Committee (IAC) and Big 4 (B4).

β_3 and β_4 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Capital Structure (CS).

It = Firm i in period t.

ε_{it} = Standard error term.

Model 1C: Test the impact of impact of financial performance on capital structure

H7: There is a positive association between financial performance and capital structure decisions.

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = $\beta_1, \beta_2, \beta_3$ and β_4 = denotes regression coefficient of financial performance: profitability: Return on Assets (ROA), Return on Equity (ROE), Gross Profit Margin (GPM) and Earnings per Share (EPS).

β_5, β_6 and β_7 = denotes regression coefficient of financial performance: liquidity: current ratio (CR), Asset Turnover (AT), Inventory Turnover (IT).

β_8 and β_9 = denotes regression coefficient of control variables: Tobin's Q (TQ) and Firm Size (FS).

Dependent variable = Capital Structure (CS).

It = Firm i in period t.

ε_{it} = Standard error term.

7.2 Effect of corporate governance mechanisms related to board characteristics and audit quality on firm's financial performance

The second 4 regression models designed to test the 4 hypotheses regarding the effect of corporate governance mechanisms related to board characteristics and audit quality on firm's financial performance are as follows:

Model 2A: test the impact of corporate governance mechanisms related to board characteristics on financial performance “Profitability”

H2: There is a positive association between corporate governance practice and financial performance.

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = $\beta_1, \beta_2, \text{ and } \beta_3$ = denotes regression coefficient of Corporate Governance Practices (CGP): Board Independence (BI), Board Size (BS) and CEO duality (CEOD).

β_4 and β_5 = denotes regression coefficient of control variables: Tobin’s Q (TQ) and Firm Size (FS).

Dependent variable = Financial Performance: Profitability measured by Return on Assets (ROA).

It = Firm i in period t.

ε_{it} = Standard error term.

Model 2B: test the impact of corporate governance mechanisms related to board characteristics on financial performance “Liquidity”

H3: There is a positive association between corporate governance practice and liquidity

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = $\beta_1, \beta_2, \text{ and } \beta_3$ = denotes regression coefficient of Corporate Governance Practices (CGP): Board Independence (BI), Board Size (BS) and CEO duality (CEOD).

β_4 and β_5 = denotes regression coefficient of control variables: Tobin’s Q (TQ) and Firm Size (FS).

Dependent variable = Financial Performance: Liquidity measured by current ratio (CR).

It = Firm i in period t.

ε_{it} = Standard error term.

Model 2C: test the impact of audit quality on financial performance “profitability”

H5: There is a positive association between audit quality and profitability.

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = β_1 and β_2 = denotes regression coefficient of audit quality (AQ): Independence of Audit Committee (IAC) and Big 4 (B4).

β_3 and β_4 = denotes regression coefficient of control variables: Tobin’s Q (TQ) and Firm Size (FS).

Dependent variable = Financial Performance: Profitability measured by Return on Assets (ROA).

It = Firm i in period t.

ε_{it} = Standard error term.

Model 2D: test the impact of the impact of audit quality on financial performance “liquidity”

H6: There is a positive association between audit quality and liquidity.

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

Where:

β_0 = denotes a constant of the regression model.

Independent variables = β_1 and β_2 = denotes regression coefficient of audit quality (AQ): Independence of Audit Committee (IAC) and Big 4 (B4).

β_3 and β_4 = denotes regression coefficient of control variables: Tobin’s Q (TQ) and Firm Size (FS).

Dependent variable = Financial Performance: liquidity measured by current ratio (CR).

It = Firm i in period t.

ϵ_{it} = Standard error term.

7.3 Pearson Correlation

Table (3) shows the Pearson correlation coefficient between the dependent variable and the independent variable used in the research regression model. In correlation analysis, variable values that are converted to binary values are still represented by the original values of the measurements.

Table (3): Pearson Correlations Coefficients

	CS	ROA	BI	BS	CEOD	TQ	FS	IAC	B4	ROE	GPM	EPS	CR	AT	IT
CS	1	-0.081	-0.311	-0.3502	0.1937	0.0132	-0.0613	0.139	0.0415	-0.0589	-0.0063	0.0037	-0.0532	-0.1908	-0.0497
ROA	-0.081	1	-0.1517	0.1131	0.0328	0.044	-0.0194	0.0277	-0.0115	0.877	0.2495	0.1109	0.0528	0.1659	-0.0335
BI	-0.311	-0.1517	1	0.1204	-0.0491	-0.0193	0.0279	0.0446	-0.0736	-0.01481	-0.0584	0.0177	0.0174	0.0027	-0.0335
BS	-0.3502	0.1131	0.1204	1	-0.2816	-0.0714	-0.0477	-0.0738	0.1299	0.0908	-0.0045	-0.0141	-0.01281	0.1711	-0.0272
CEOD	0.1937	0.0328	-0.0491	-0.2816	1	0.1899	-0.1137	0.0267	0.0652	0.0561	0.1227	-0.0209	-0.0255	-0.0503	-0.0179
TQ	0.0132	0.044	-0.0193	-0.0714	0.1899	1	-0.1291	-0.1481	-0.0612	0.0235	0.004	0.0135	-0.0117	-0.0156	-0.0172
FS	-0.0613	-0.0194	0.0279	-0.0477	-0.1137	-0.1291	1	-0.0588	-0.0368	-0.002	0.0613	0.1283	0.0271	-0.154	0.0124
IAC	0.139	0.0277	0.0446	-0.0738	0.0267	-0.1481	-0.0588	1	-0.0847	0.0905	-0.0369	0.0242	0.0647	-0.0522	-0.0087
B4	0.0415	-0.0115	-0.0736	0.1299	0.0652	-0.0612	-0.0368	-0.0847	1	-0.0385	-0.0113	0.0705	0.0231	-0.0473	0.0538
ROE	-0.0589	0.877	-0.01481	0.0908	0.0561	0.0235	-0.002	0.0905	-0.0385	1	0.03237	0.0668	-0.0474	0.1264	-0.0041
GPM	-0.0063	0.2495	-0.0584	-0.0045	0.1227	0.004	0.0613	-0.0369	-0.0113	0.03237	1	0.0528	-0.1304	0.0292	-0.0554
EPS	0.0037	0.1109	0.0177	-0.0141	-0.0209	0.0135	0.1283	0.0242	0.0705	0.0668	0.0528	1	-0.0495	-0.0594	-0.1223
CR	-0.0532	0.0528	0.0174	-0.01281	-0.0255	-0.0117	0.0271	0.0647	0.0231	-0.0474	-0.1304	-0.0495	1	0.0087	-0.0073
AT	-0.1908	0.1659	0.0027	0.1711	-0.0503	-0.0156	-0.154	-0.0522	-0.0473	0.1264	0.0292	-0.0594	0.0087	1	-0.0328
IT	-0.0497	-0.0335	-0.0335	-0.0272	-0.0179	-0.0172	0.0124	-0.0087	0.0538	-0.0041	-0.0554	-0.1223	-0.0073	-0.0328	1

7.4 Panel Data Regression Results and Discussions

To establish which panel effects (between fixed and random) provided better estimation results for the research, Hausman test was carried out for the specified panel regression model. Moreover, for accurate, reliable, and valid results; we test for heteroscedasticity, serial correlation, cross dependence

correlation, and functional misspecification problems for each of the 7 regression models and all the required data treatment was taken as shown below.

The first 3 regression models designed to test the 3 hypotheses regarding the effect of corporate governance practices and audit quality and firm's financial performance on capital structure are as follows:

7.4.1 Model 1A: Test the impact of corporate governance mechanisms related to board characteristics on capital structure

H₁: There is a positive association between corporate governance practice and capital structure decisions.

The overall equation for forecasting CS is:

$$CS_{it} = 11.74995 + 0.3871214 BI_{it} - 3.058215 BS_{it} - 3.203538 CEOD_{it} - 0.0861035 TQ_{it} - 3.254867 FS_{it} + \varepsilon_{it}$$

Table (4): Model 1A: Test the Impact of Corporate Governance Mechanisms related to Board Characteristics on Capital Structure

Model 1A: Pooled OLS				Decision
Dependent variable: CS				
Independent variables	Coefficient	Drisc/Kraay Standard errors	P – value	
Board Independence (BI)	0.3871214	1.45325	0.792	Insignificant
Board Size (BS)	-3.058215	0.7302942	0.000	Significant
CEO Duality (CEOD)	3.203538	1.198614	0.011	Significant
Tobin's Q (TQ)	-0.0861035	0.0924047	0.358	Insignificant
Firm size (FS)	-3.254867	1.002823	0.003	Significant
R – squared		0.1384		
Prob. (F – test)		0.0000		
Modified Wald test for groupwise heteroskedasticity		Chi-square	P – value	
		3.8e+07	0.0000	
Ramsey RESET overall Test		F-test	P – value	
		17.01	0.0000	
Wooldridge test for autocorrelation		F-test	P – value	
		49914.261	0.0000	
Cross sectional dependence Test			P – value	
		6.412	0.0000	

Source: calculated by the researchers

Table (4) shows the results of panel regression for *model 1A* estimated using pooled OLS with capital structure being the dependent variable, while Board Independence, Board Sizes, CEO duality, Tobin's Q and firm size as the independent variables. The model sought to derive investigate the impact of corporate governance mechanisms related to board characteristics on capital structure. The results displayed on Table (4) further shows that 3 out of 5 variables are significant. In other words, board size (BS), CEO duality (CEOD), and firm size (FS) have significant impact on capital structure at 1% level of significance. The findings revealed that board size (BS) has a negative significant impact on firm's capital structure which indicates that (Tawfeeq et al., 2018). This result was supported by many studies in the literature such as (Muhammad and Liyu, 2018; Njuguna & Obwogi, 2015; Purag & Abdullah, 2016; Tarus & Ayabei, 2016). Moreover, findings showed that CEO duality have positive impact on capital structure which indicates that firms where a single individual serving as both CEO and board chair affect capital structure positively. This result was supported by many studies in the literature such as (Abor, 2007, Arko, 2009, Bodaghi & Ahmadpour, 2010). Also, firm size showed a negative significant impact on capital structure. This implies that firm size does play a significant role in determining capital structure of non-financial firms (Guest, 2008).

7.4.2 Model 1B: Test the impact of audit quality on capital structure

H4: There is a positive association between audit quality and capital structure.

The overall equation for forecasting CS is:

$$CS_{it} = 9.74995 + 4.50153 IAC_{it} + 1.671594 B4_{it} + 0.0720423 TQ_{it} - 2.138206 FS_{it} + \varepsilon_{it}$$

Table (5): Model 1B: Test the Impact of Audit Quality on Capital Structure

Model 1B: Generalized Least Squares (GLS)				Decision
Dependent variable: CS				
Independent variables	Coefficient	Standard errors	P – value	
(IAC)	4.50153	1.636952	0.009	Significant
(B4)	1.671594	1.968458	0.042	Significant
Tobin's Q (TQ)	0.0720423	0.0776294	0.360	Insignificant
Firm size (FS)	-2.138206	1.127707	0.066	Significant
R – squared		0.2586		
Prob. (F – test)		0.0000		
Modified Wald test for groupwise heteroskedasticity		Chi-square	P – value	
		1.6e+06	0.0000	
Ramsey RESET overall Test		F-test	P – value	
		2.01	0.1153	
Wooldridge test for autocorrelation		F-test	P – value	
		86875.245	0.0000	
Cross sectional dependence Test			P – value	
		1.7237	0.383	

Source: calculated by the researchers

Table (5) shows the results of panel regression for model 1B estimated using generalized least square (GLS) method with capital structure being the dependent variable, while Independence of Audit Committee (IAC), Big 4 (B4), Tobin's Q and firm size as the independent variables. The model was estimated used GLS method since no cross-sectional dependence exists among panels which mean that residuals are not correlated. The model tested the impact of audit quality on capital structure. The results displayed on Table (5) further shows that 3 out of 4 variables are significant. In other words, Independence of Audit Committee (IAC), Big 4 (B4) and firm size (FS) have significant impact on capital structure at 1% level of significance. The findings revealed that Independence of Audit Committee (IAC) has a positive significant impact on firm's capital structure (Agoestina, 2021). This result was supported by many studies in the literature such as (Kajananthan, 2012; Abor, 2007; Achchuthan et al., 2013). Moreover, findings showed that Big 4 have also a positive impact on capital structure which indicates that firms where (Booth et al., 2001) affect capital structure positively. This result was supported by many studies in the literature such as (Chang et al, 2009; Choi & Wong, 2007; Petacchi, 2015; Wen et al 2022). Also, firm size showed a negative significant impact on capital structure. This implies that firm size does play a significant role in determining capital structure of non-financial

firms (Brigham & Houston, 2011). Like model 1A the coefficients of Tobin's Q were not significant; meaning that has no effect on firm's capital structure.

7.4.3 Model 1C: Test the impact of financial performance on capital structure

H7: There is a positive association between financial performance and capital structure decisions.

The overall equation for forecasting CS is:

$$CS_{it} = 19.52425 + 0.8386717 ROA_{it} + 0.0311151 ROE_{it} + 0.0442216 GPM_{it} + 0.1268771 EPS_{it} - 0.0292461 CR_{it} - 2.439956 AT_{it} - 0.0700659 IT_{it} - 0.0015213 TQ_{it} - 4.343743 FS_{it} + \epsilon_{it}$$

Table (6): Model 1C: Test the Impact of Financial Performance (Profitability and Liquidity) on Capital Structure

Model 1C: Pooled OLS				Decision
Dependent variable: CS				
Independent variables	Coefficient	Drisc/Kraay Standard errors	P – value	
ROA	0.8386717	0.5760888	0.015	Significant
ROE	0.0311151	0.0263258	0.245	Insignificant
GPM	0.0442216	0.2054928	0.831	Insignificant
EPS	0.1268771	3.9549	0.975	Insignificant
CR	-0.0292461	0.0098482	0.005	Significant
AT	-2.439956	0.4476773	0.000	Significant
IT	-0.0700659	0.0180963	0.000	Significant
Tobin's Q (TQ)	-0.0015213	0.0643238	0.981	Insignificant
Firm size (FS)	-4.343743	1.573853	0.009	Significant
R – squared	0.1384			
Prob. (F – test)	0.0000			
Modified Wald test for groupwise heteroskedasticity	Chi-square		P – value	
	0.6471		0.0000	
Ramsey RESET overall Test	F-test		P – value	
	17.01		0.5919	
Wooldridge test for autocorrelation	F-test		P – value	
	38493.536		0.0000	
Cross sectional dependence Test	P – value			
	0.0465			

Source: calculated by the researchers

Table (6) shows the results of panel regression for model 1C estimated using pooled OLS with capital structure being the dependent variable, while return on assets (ROA), return on equity (ROE), gross profit margin (GPM), earning per share (EPS), current ratio (CR), asset turnover (AT), Inventory turnover (IT), Tobin's Q and firm size as the independent variables. The model sought to test the impact of firm's financial performance whether from liquidity and profitability aspects on capital structure. The results displayed on Table (6) further shows that 5 out of 9 variables are significant. In other words, return on assets (ROA), current ratio (CR), inventory turnover (IT), asset turnover (AT) and firm size (FS) have significant impact on capital structure at 1% level of significance. The findings revealed that return on assets (ROA) – the only profitability ratio - has a positive significant impact on firm's capital structure which indicates that (Kizito, 2017). This result was supported by many studies in the literature such as (B. Nimalathasan & Valeriu Brabete, 2010; Pratheepkanth, 2011; Khan, 2012; Doan, 2014).

Moreover, findings showed that all liquidity ratios have negative significant impact on firm's capital structure which indicates that the higher the liquidity position of the firm whether it is measured by its ability to cover short term obligations (CR), its management efficiency in generating revenues from assets or from inventory perspective that implies higher demand, the more efficient will be its capital structure. This result was supported by many studies in the literature such as (Shehu & Musa, 2015; Kwabena, 2017). Also, firm size showed a negative significant impact on capital structure. This implies that firm size does play a significant role in determining capital structure of non-financial firms (Brigham & Houston, 2011).

The second 4 regression models designed to test the 4 hypotheses regarding the effect of corporate governance mechanisms related to board characteristics and audit quality on firm's financial performance are as follows:

7.4.4 Model 2A: Test the impact of corporate governance mechanisms related to board characteristics on financial performance “profitability”

H2: There is a positive association between corporate governance practice and financial performance.

The overall equation for forecasting ROA is:

$$ROA_{it} = - 1.250203 - 0.4473386 BI_{it} - 0.1510485 BS_{it} + 0.2067275 CEOD_{it} + 0.0085308 TQ_{it} - 0.0753297 FS_{it} + \varepsilon_{it}$$

Table (7): Model 2A: Test the Impact of Corporate Governance Mechanisms related to Board characteristics on Financial Performance “Profitability”

Model 2A: Generalized Least Squares (GLS)				Decision
Dependent variable: ROA				
Independent variables	Coefficient	Standard errors	P – value	
Board Independence (BI)	-0.4473386	0.1705338	0.009	Significant
Board Size (BS)	-0.1510485	0.0658034	0.022	Significant
CEO Duality (CEOD)	0.2067275	0.2477277	0.004	Significant
Tobin’s Q (TQ)	0.0085308	0.0069461	0.219	Insignificant
Firm size (FS)	-0.0753297	0.2432303	0.757	Insignificant
R – squared		0.1299		
Prob. (F – test)		0.0358		
Modified Wald test for groupwise heteroskedasticity		Chi-square	P – value	
		7773.40	0.0000	
Ramsey RESET overall Test		F-test	P – value	
		2.1314	0.0968	
Wooldridge test for autocorrelation		F-test	P – value	
		2.922	0.0962	
Cross sectional dependence Test			P – value	
			1.1376	

Source: calculated by the researchers

Table (7) shows the results of panel regression for model 2A estimated using GLS method with return on assets (ROA) as a proxy for profitability being the dependent variable, while Board Independence (BI), Board Sizes (BS), CEO duality (CEOD), Tobin’s Q and firm size as the independent variables. The model tested the impact of corporate governance mechanisms related to board characteristics on financial performance from profitability aspect.

The results displayed on Table (7) further shows that 3 out of 5 variables are significant. In other words, Board Independence (BI), Board Sizes (BS), CEO duality (CEOD) has significant impact on ROA at 1% level of significance. The findings revealed that board independence (BI) has a negative impact on firm’s financial performance. The result may indicate that although the companies comprised the highest number of independent directors, it would not assure to enhance firm performance and vice versa. Thus, the existence of independent directors on board should be monitored to bring positive shareholder values. The results also showed that board size (BS) has a positive significant impact on firm’s financial performance which based on agency theory, researchers believe that the relationship between board size and company financial performance is negative. A larger board will have more agency costs, and as the board becomes larger, issues such as coordination and communication costs will increase This result was supported by many studies in the

literature such as (Ajibade & Richard, 2019; Azza khan, 2019; Coles et al., 2008; Guest, 2008; Linck et al., 2008). Moreover, findings showed that CEO duality have positive impact on firm's financial performance which indicates that firms where a single individual serving as both CEO and board chair affect firm performance positively. This result was supported by many studies in the literature such as (Donaldson & Davis, 1991; Muth & Donaldson, 1998; Bich & Thai, 2019). Finally, firm size showed an insignificant impact on financial performance of the firm which implies that that firm size does play a significant role in determining firms' profitability. In other words, it is not one of the important factors that affect firms' financial performance. Similarly, Tobin's Q were not significant; meaning that (Duru et al., 2016; Haniffa & Hudaib, 2006) has no effect on firm's financial performance.

7.4.5 Model 2B: Test the impact of corporate governance mechanisms related to board characteristics on financial performance "liquidity"

H3: There is a positive association between corporate governance practice and liquidity.

The overall equation for forecasting CR is:

$$CR_{it} = 46.27696 - 0.3490677 BI_{it} - 1.994628 BS_{it} - 2.030828 CEOD_{it} - 0.0266591 TQ_{it} - 2.579194 FS_{it} + \varepsilon_{it}$$

Table (8): Model 2B: Test the Impact of Corporate Governance Mechanisms related to Board Characteristics on Financial Performance "Liquidity"

Model 1B: Generalized Least Squares (GLS)				Decision
Dependent variable: CR				
Independent variables	Coefficient	Standard errors	P – value	
Board Independence (BI)	-0.3490677	0.7937077	0.660	Insignificant
Board Size (BS)	-1.994628	1.076341	0.064	Significant
CEO Duality (CEOD)	-2.030828	3.419841	0.553	Insignificant
Tobin's Q (TQ)	-0.0266591	0.0655831	0.684	Insignificant
Firm size (FS)	-2.579194	2.672611	0.335	Insignificant
R – squared		0.1126		
Prob. (F – test)		0.0002		
Modified Wald test for groupwise heteroskedasticity		Chi-square	P – value	
		7.1e+08	0.0000	
Ramsey RESET overall Test		F-test	P – value	
		2.4889	0.0621	
Wooldridge test for autocorrelation		F-test	P – value	
		27465.415	0.0000	
Cross sectional dependence Test		P – value		
		1.5752		

Source: calculated by the researchers

Table (8) shows the results of panel regression for model 2B estimated using GLS method with current ratio (CR) as a proxy for liquidity being the dependent variable, while Board Independence (BI), Board Sizes (BS), CEO duality (CEOD), Tobin's Q and firm size as the independent variables. The model tested the impact of corporate governance mechanisms related to board characteristics on financial performance from liquidity aspect.

The results displayed on Table (8) further show that only 1 out of the 5 variables is significant. In other words, only Board Sizes (BS) has significant impact on CR at 10% level of significance. The findings revealed that board size (BS) has a negative impact on firm's financial performance from liquidity perspective. The result may indicate that larger board size (large number of directors) negatively impacts on the profitability of Egyptian firms from liquidity perspective. This result was supported by many studies in the literature such as (Lasfer, 2004; Yermack, 1996; Yusuf & Mesut, 2014; Guest, 2008; Hermalin & Weisbach, 2003). On the other hand, other independent variables and control variables showed insignificant impact on financial performance of the firm which implies that these variables might have no significant impact on firm's liquidity position.

7.4.6 Model 2C: Test the impact of audit quality on financial performance "profitability"

H5: There is a positive association between audit quality and profitability

The overall equation for forecasting ROA is:

$$ROA_{it} = 1.709143 + 4.252193 IAC_{it} + 1.069009 B4_{it} + 0.012151 TQ_{it} - 0.154416 FS_{it} + \varepsilon_{it}$$

Table (9): Model 2C: Test the Impact of Audit Quality on Financial Performance "Profitability"

Model 2C: Generalized Least Squares (GLS)				Decision
Dependent variable: ROA				
Independent variables	Coefficient	Standard errors	P – value	
(IAC)	4.252193	1.275321	0.004	Significant
(B4)	1.069009	1.190789	0.030	Significant
Tobin's Q (TQ)	0.012151	0.007843	0.121	Insignificant
Firm size (FS)	-0.154416	0.261421	0.555	Insignificant
R – squared		0.1361		
Prob. (F – test)		0.0000		
Modified Wald test for groupwise heteroskedasticity		Chi-square	P – value	
		29620.89	0.0000	
Ramsey RESET overall Test		F-test	P – value	
		0.8879	0.4511	
Wooldridge test for autocorrelation		F-test	P – value	
		2.599	0.1159	
Cross sectional dependence Test			P – value	
			1.7045	

Source: calculated by the researchers

Table (9) shows the results of panel regression for model 2C estimated using generalized least square (GLS) method with return on assets (ROA) as a proxy for profitability being the dependent variable, while, while Independence of Audit Committee (IAC), Big 4 (B4), Tobin`s Q and firm size as the independent variables. The model was estimated used GLS method since no cross-sectional dependence exists among panels which mean that residuals are not correlated, and no serial correlation was detected. The model tested the impact of audit quality on firm`s profitability proxied by ROA.

The results displayed on Table (9) further shows that 2 out of 4 variables are significant. In other words, audit quality measured by Independence of Audit Committee (IAC) and Big 4 (B4) have significant impact on firm`s financial performance at 5% and 10% level of significance. The findings revealed that Independence of Audit Committee (IAC) has a positive significant impact on firm`s profits which indicates that (Ajibade & Richard, 2019). This result was supported by many studies in the literature such as (Okere ET AL., 2018; Emre&Emir, 2018; Bhagat & Black, 2000; Fernandes, 2008; Lefort & Urzua, 2008; Muniandy & Hillier, 2015).

Moreover, findings showed that Big 4 (BS) have also a positive impact on firms` profitability which indicates that firms where affect firms` financial performance measured by ROA positively. This result was supported by many studies in the literature such as (Rahman et al.,2019; Alqatamin, 2018; Farouk & Hassan, 2014; Bui et al.,2021; Ado et al., 2020). On the other hand, and Similar to previous models` firm size and Tobin`s Q were not significant; meaning that has no effect on firms` profitability.

7.4.7 Model 2D: Test the impact of audit quality on financial performance “liquidity”

H6: There is a positive association between audit quality and liquidity.

The overall equation for forecasting CR is:

$$CR_{it} = 1.237205 + 3.913666 IAC_{it} + 1.652815 B4_{it} - 0.0140833 TQ_{it} - 2.015556 FS_{it} + \varepsilon_{it}$$

Table (10): Model 2D: Test the Impact of Audit Quality on Financial Performance “Liquidity”

Model 2D: Generalized Least Squares (GLS)				Decision
Dependent variable: CR				
Independent variables	Coefficient	Standard errors	P – value	
(IAC)	3.913666	2.404856	0.103	Significant
(B4)	1.652815	3.724655	0.660	Insignificant
Tobin’s Q (TQ)	-0.0140833	0.0319693	0.662	Insignificant
Firm size (FS)	-2.015556	0.7654005	0.013	Significant
R – squared		0.1126		
Prob. (F – test)		0.0002		
Modified Wald test for groupwise heteroskedasticity		Chi-square	P – value	
		1.6e+07	0.0000	
Ramsey RESET overall Test		F-test	P – value	
		0.1893	0.9087	
Wooldridge test for autocorrelation		F-test	P – value	
		27019.379	0.0000	
Cross sectional dependence Test			P – value	
			0.0073	

Source: calculated by the researchers

Table (10) shows the results of panel regression for model 2D estimated using generalized least square (GLS) method with current ratio (CR) as a proxy for liquidity being the dependent variable, while, while Independence of Audit Committee (IAC), Big 4 (B4), Tobin’s Q and firm size as the independent variables. The model tested the impact of audit quality on firm’s liquidity proxied by CR and found that 2 out of 4 variables are significant. Audit quality proved to have positive impact on the firm’s liquidity position where Independence of Audit Committee (IAC) found to have significant positive impact on firm’s liquidity at 5% and 10% level of significance. The findings revealed that Independence of Audit Committee (IAC) has a positive significant impact on firm’s profits. This result was supported by many studies in the literature such as (Trinh et al., 2015; Lilis & Asrori, 2019).

Moreover, findings showed that Big 4 (BS) have no significant impact on firms’ liquidity were. This result was supported by some studies in the literature such as (Pribadi, 2018). On the other hand, and Similar to previous Tobin’s Q is insignificant; meaning that has no effect on firms’ liquidity.

Based on the preceding tables (4), (5), (6), (7), (8), (9) and (10), the results are in line with the following literature and it is concluded that:

- 1. Board independence and Capital structure:** In terms of (CG), in the context of Egypt, the current research aims to investigate how board of director independence affects capital structure. According to the study's hypothesis, there is no relationship between the amount of debt and the proportion of external directors. The results demonstrate that there is no significant correlation between the capital structure of Egyptian listed companies and the presence of independent directors.
- 2. Board size and capital structure:** Organizations with higher debt and leverage will have larger boards, according to (Jensen & Meckling, 1976). However, (Berger et al., 1997) discovered that with a larger board of directors, leverage decreases. According to a 2012 study of Malaysian corporations by (Wang et al., 2012) organizations with larger boards perform better by pressuring management to cut back on debt funding. Additionally, (Ranti, 2013) discovered a significant negative association between the two and concluded that businesses with smaller boards typically have more leverage, which they can employ to lessen their agency issues. This is so that the management team is rigorously monitored and controlled by a company with a larger board. The results of this research demonstrate a negative relationship between board size and capital structure. These results are in line with (Muhammad & Liyu, 2018).
- 3. CEO duality and capital structure:** Many theories claimed that CEO duality significantly improves capital structure and corporate performance. Stewardship theory also suggested that the CEO is motivated to increase the firm's value via intrinsic value (Donaldson and Davis, 1991). Additionally, according to some researchers, CEO dualism can raise a company's debt, and there is a positive and significant relationship between leverage and CEO duality (Abor, 2007; Bokpin & Arko, 2009). Evidence about the effect of CEO duality on capital structure is provided by this study. The results indicated that the CEO duality has a positive relationship with capital structure decisions.
- 4. Independence of Audit committee and capital structure:** Board independence and the use of financial leverage are positively associated, claims (Kajananthan, 2012), He provided evidence that the board independence director's effective supervision greatly minimizes

conflict between shareholders and firm directors. Corporates that are well-managed will therefore have a greater creditworthiness, enabling them to borrow more money. The results are in line with those of (Siromi & Chandrapala, 2017), who discovered a positive relationship between a companies outside directors and its capital structure. The purpose of this study was to investigate the relationship between audit committee independence and leverage on Egyptian publicly traded companies. The independence of the audit committee has a significant positive relationship with leverage. As a result, in the corporate governance system, the audit committee serves as a controlling and monitoring mechanism for management activities. This research contributes to the literature by filling a gap in the context of Egypt and provides an essential understanding of audit committee independence. The research also agrees with previous research in that there is a positive relationship between audit committee independence and capital structure.

5. **Big4 and capital structure:** A large body of research suggests that using a Big 4 auditor reduces information asymmetry or lowers monitoring costs between corporate insiders and outsiders, facilitating external financing. The selection of a Big 4 auditor is a commonly used proxy measure of audit quality. There is evidence that appointing a Big 4 auditor improves public firms' access to equity capital and reduces underpricing when private firms go public. Researchers have investigated the impact of auditor selection on the cost of debt, but their findings have been inconclusive for both public firms see the conflicting results in and private firms. This research contributes to the empirical literature on the link between Big 4 audit firm and capital structure. The purpose of this paper was to investigate whether the appointment of a Big4 audit firm affects the capital structure of Egyptian listed companies. The results of this research showed a big 4 have a positive effect on the capital structure. These results are in line with (Vanstraelen & Schelleman, 2017).
6. **Firm size and capital structure:** The purpose of this research is to provide empirical evidence on the relationship between firm size and capital structure. Firm size has been used as a determinant of firm's capital structure in most of empirical studies on capital structure and is not among the most significant variables. But theoretically the relationship between size and leverage is not clear (Panigrahi, 2011). According to (Singh & Kumar, 2008) pecking order theory predicts a negative relationship between firm size and leverage because large firms are mostly more profitable and need more retained earnings. (Ramlall, 2009) analyzed the determinants of capital structure for non-listed firms in Mauritius. He

found that size have negative impact on leverage. The findings of this research reveal a negative correlation between firm size and leverage.

- 7. Financial performance (Profitability-Liquidity) and capital structure:** Profitability affects the company's value, causing a positive response from investors who can cause an increase in stock prices in the market, ultimately increasing the company's value in the eyes of investors (Yanti & Darmayanti: 2019). According to empirical evidence (Guna & Sampurno: 2018), profitability influences capital structure. This supports the pecking order theory, which states that the higher a company's profitability, the less debt it uses. According to the findings of this research, capital structure has a significant and negative impact on profitability (ROA); this finding is consistent with previous research. Because high liquidity can reduce the use of external funds due to high internal funding, the company's Current Ratio is a factor that influences the capital structure. This study's findings agreed with previous research (Deviani & Sudjarni, 2018), which discovered that the current ratio has a negative effect on capital structure. Furthermore, (Juliantika & Dewi, 2016) discovered that liquidity, as measured by the Current Ratio, has a negative and significant impact on capital structure (Watung, 2016).
- 8. Financial performance (profitability) and Board independence:** Various studies provide different viewpoints on in case the size of the board has any effect on performance of the companies. Some studies are of the belief that more the board independence, positive is the influence on the financial performance. This is consistent with finding of some studies are of the belief that more the board independence, positive is the influence on the financial performance. (Das & Dey, 2016) analyzed the effect corporate governance variables have on financial performance of the company after implementation of companies' act 2013 with board independence as one of the independent variables by taking 75 large cap companies found positive influence when calculated by ROA.
- 9. Financial performance (profitability) and Board size:** (Belkhir, 2008) examines the relationship between board size and performance of 174 bank and savings-and-loan holding companies from 1995 to 2002. The study, which employs panel data techniques, reveals a positive relationship between board size and performance, as measured by Tobin's q and (ROA). (Kiel & Nicholson, 2003) investigate the impact of board structure on the financial performance. The study's findings

indicate a positive and statistically significant relationship between board size and the financial performance proxy, Tobin's q.

10. CEO duality and financial performance (Profitability):

(Gill & Mathur, 2011) investigated the effect of corporate governance on the performance of Canadian service firms. Profitability and CEO duality have a positive relationship, according to the findings of a 2008-2010 study. (Doan T, 2020) investigated the impact of CEO duality on the performance of mutual fund companies. According to the study's findings, CEO duality has a positive impact on financial performance. (Elsayed, 2007) used a sample of Egyptian publicly traded companies to investigate the impact of CEO duality on company performance. CEO duality has a mixed and significant impact on (ROA) and Tobin Q, both financial performance measures, according to the findings. According to the findings, some firms benefit from CEO duality by increasing firm profitability, whereas others experience a decrease in firm profitability while utilizing CEO duality. In line with previous research, this research found a positive relationship between CEO duality and financial performance at the end of the analysis. In other words, the presence of a CEO on the board of directors has a positive impact on accounting-based performance indicators (ROA).

11. Independence of audit committee and financial performance (Profitability):

The audit committee includes both independent and non-independent members, ensuring better management through operational transparency and accountability. According to the literature, the presence of outside directors on the audit committee may reduce the manager's opportunistic behavior and reduce agency costs (Bouaine & Hrichi, 2019). It means that the audit committee's independence has a positive relationship with profitability (Kallamu & Saat, 2015). The results of the research have shown a positive and significant effect between the number of independent auditors and financial performance. It is widely assumed that increasing the number of independent directors leads to better financial monitoring and reporting, both of which are critical in improving financial performance.

12. Big 4 and financial performance (Profitability):

External audit quality is estimated by the integration of audit practicing firms of Big4. BIG4 audits are widely perceived to have higher audit quality. As a result, BIG4 audits or audits from reputable firms have a significant positive relationship with performance (Afza & Nazir, 2014). (Al Ani & Mohammed, 2015) investigated the connection between audit quality

(BIG4 audit) and profitability. They discovered a positive relationship between the two variables in their study. This similar result was discovered in the research of (Alqatamin, 2018). In this paper, it is investigated whether Big 4 effect on financial performance (profitability). Based on the processed data it can be concluded Big4 has a significant positive effect on profitability (ROA). This outcome is consistent with earlier studies.

13. Board independence, CEO duality and financial performance (Liquidity): There is no significant relationship between (Board independence, CEO duality) and liquidity, according to the research study findings.

14. Board size and financial performance (Liquidity): The agency problem may be more acute with a larger board than with a smaller one, which may render the board ineffective in making key decisions. Furthermore, larger boards may have more directors take out loans from the bank, which has a negative impact on the bank's liquidity position because loans to directors may not attract as much interest as loans to customers. This research agreed with this result, as this research proved that the Board size negatively effects on liquidity.

15. Independence of audit committee, (Big 4) and financial performance (Liquidity): audit committee independence had a significant positive relationship with liquidity (CR). According to the findings of this literature review, an audit committee has four characteristics The most important of them (independence of the audit committee) which is the most important factor of audit committee characteristics, so independence of the audit committee always has a positive effect on financial performance if used correctly (Shouq et al., 2022; Zubair, A, 2016). The research concludes that the audit committee's frequent independence has a positive impact on the company's liquidity. The research also concludes that the Big4 audit quality has no significant on the company's liquidity.

8. Conclusion

The purpose of this research is to investigate the impact of corporate governance practices and audit quality on capital structure decisions and financial performance. Using panel data analysis, the research relied on many listed companies on the Egyptian Exchange (EGX 100) from 2015 to 2021. This research has five independent variables (board independence-board size-

CEO duality-Independence of Audit Committee-Big 4), the first three of which are related to corporate governance practice and the other two to audit quality.

Firstly, the direct relationship between corporate governance practices and capital structure decisions and financial performance is investigated; according to the research findings, corporate governance practices have a significant positive impact on capital structure decisions in Egypt, as well as a negative relationship between board size and capital structure and a positive relationship between CEO duality and capital structure. We discovered that board independence has no bearing on capital structure decisions.

As for the financial performance and corporate governance, have been studied the impact of corporate governance practice on profitability and liquidity. According to the research findings corporate governance practice has a significant positive impact on the financial performance. We measured profitability by (ROA), where it turned out to have a positive effect corporate governance practice; our results showed the board independence negatively effect on (ROA) and positively effects on board size, CEO duality. we measured liquidity with (CR) Our results showed that the only variable affecting the fluidity is the board size and affects it negatively, as for the board independence and CEO duality they have no effect on liquidity.

Secondly, the direct relationship between audit quality on capital structure decisions and financial performance are examined.

As for audit quality, the results have shown that the audit quality positively affects the capital structure decisions; It was also found that all elements of audit quality that were measured are independence of audit committee and BIG 4 They have a positive effect on capital structure decisions.

According to the findings of this study, there is a positive relationship between audit quality (independence of audit committee, BIG 4) and profitability. As for its relationship to liquidity, it became clear that the audit quality also positively affects liquidity, as the independence of the audit committee positively affects liquidity. As for BIG 4 has no significant impact on liquidity.

Thirdly, In terms of the relationship between financial performance and capital structure decisions, this research found that there is a positive relationship between financial performance and capital structure decisions in terms of profitability, as measured by the (ROA) and the results showed that it positively affects capital decisions. Liquidity, as measured by (CR), was found to have a negative impact on capital decisions.

Tables (11) and (12) summarize the results of all the 7 linear panel regression models and their hypotheses.

Table (11): Summary of the Results of the First 3 Linear Panel Regression Models

and their Hypothesis

Variable	Model					
	First		Second		Third	
	Type	Significance	Type	Significance	Type	Significance
Dependent Variable: CS						
Board Independence (BI)	Independent	Insignificant	-	-	-	-
Board Size (BS)	Independent	Significant	-	-	-	-
CEO Duality (CEOD)	Independent	Significant	-	-	-	-
(IAC)	-	-	Independent	Significant	-	-
(B4)	-	-	Independent	Significant	-	-
ROA	-	-			Independent	Significant
ROE	-	-			Independent	Insignificant
GPM	-	-			Independent	Insignificant
EPS	-	-			Independent	Insignificant
CR	-	-			Independent	Significant
AT	-	-			Independent	Significant
IT	-	-			Independent	Significant
Tobin's Q (TQ)	Controlling	Insignificant	Controlling	Insignificant	Controlling	Insignificant
Firm size (FS)	Controlling	Significant	Controlling	Significant	Controlling	Significant
Overall hypothesis	Accept		Accept		Accept	

Table (12): Summary of the Results of the Second 4 Linear Panel Regression Models

and their Hypothesis

Variable	Model							
	First		Second		Third		Fourth	
	Type	Significance	Type	Significance	Type	Significance	Type	Significance
Dependent Variable: CR/ROA								
Board Independence (BI)	Independent	Significant	Independent	Insignificant	-	-		
Board Size (BS)	Independent	Significant	Independent	Significant	-	-		
CEO Duality (CEOD)	Independent	Significant	Independent	Insignificant	-	-		
(IAC)	-	-	Independent	-	Independent	Significant	Independent	Significant
(B4)	-	-	Independent	-	Independent	Significant	Independent	Insignificant
Tobin's Q (TQ)	Controlling	Insignificant	Controlling	Insignificant	Controlling	Insignificant	Controlling	Insignificant
Firm size (FS)	Controlling	Insignificant	Controlling	Insignificant	Controlling	Insignificant	Controlling	Significant
Overall hypothesis	Accept		Accept		Accept		Accept	

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