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## Ownership Structure, Capital Structure And Firm Performance In The GCC Region

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Effat University

Collage of Business

Department of Finance

Jeddah – Kingdom of Saudi Arabia

**OWNERSHIP STRUCTURE, CAPITAL STRUCTURE AND FIRM  
PERFORMANCE IN THE GCC REGION**

**A Thesis Submitted in Partial Fulfillment of the Requirements of the  
Degree of Master of Science in Finance**

By

Afreen Siddiqua

Thesis Advisor: Dr. Ahmed Ben Saida

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دراسة هيكل الملكية وهيكل رأس المال وأداء الشركات في منطقة دول مجلس التعاون الخليجي

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إعداد (أفرين صديقي)

إشراف: د. أحمد بن سعيد

(هـ - ٢٠٢٤ م ١٤٤٥)

Effat University

Jeddah, Saudi Arabia

Deanship of Graduate Studies and Research

This thesis, written by Afreen Siddiqua under the direction of her thesis supervisor and approved by her thesis committee, has been presented to and accepted by the Dean of Graduate Studies and Research on Firm Performance of the manufacturing industry in the GCC region in partial fulfillment of the requirements for the degree of Master of Science in Finance.

Thesis Committee

**Thesis Supervisor**

Name:-----

Signature:-----

**Department Chair**

Name: *Dr. Mohamed Mahees*

Signature: 

**Co-supervisor/member**

Name:-----

Signature:-----

**External Member**

Name:-----

Signature:-----

**Member**

Name:-----

Signature:-----

**Dean of the college**

Name:-----

Signature:-----

**Dean of Graduate Studies and Research**

Name:-----

Signature:-----

## **Declaration**

This work is original and has not been previously submitted in support of any degree qualifications or course.

Student's name: Afreen Siddiqua

Signature

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Firstly, I would like to thank Allah (SWT) for giving me the passion, patience and strength for completing this course. It was stressful and time consuming but I was able to overcome all those struggles. I was able to learn new things and information in this process.

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## **ABSTRACT**

This paper aims to investigate the relationship between ownership structure, capital structure and firm performance of manufacturing companies listed in the GCC stock exchanges from 2013- 2022. The GCC countries include Bahrain, Oman, Kuwait, Qatar, Saudi Arabia and the United Arab Emirates. The firm performance was measured by using Return on assets (ROA) and return on equity (ROE). The data used in this study is panel data which was extracted from Bloomberg terminal. The capital structure is represented by debt-to-equity ratio whereas the ownership structure is represented by managerial ownership and institutional ownership. The control variables used in this study are liquidity, firm size and economic growth. After the data had been collected and analyzed, the results were computed, analyzed and presented using panel data analysis, descriptive statistics and correlation analysis methods such as random effect model for ROA and fixed effect model for ROE was carried out. The study concludes that capital structure has a negative impact on ROA and ROE. Managerial ownership has positive relation with ROA but a negative relation with ROE. Institutional ownership has negative relationship with both ROA and ROE.

Keywords: Capital structure, firm performance, manufacturing industry, ownership structure, Return on Asset, Return on Equity and GCC.

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## **Chapter 1: Introduction**

### **1.1 Background**

Manufacturing is the term used to describe the fairly large-scale assembly of components into finished products. The location of manufacturing depends on the availability of suitable land at the desired price, proximity to markets, and availability of sufficient labor, energy, and capital. Manufacturing plays an important role in the economy as it contributes to the production of goods that can be sold through B2C or B2B channels. The main objective of this industry is to achieve a cost advantage per unit of production, which leads to a cost reduction in the price of the product in the market compared to the end customer.

Corporate finance is a subfield of finance that is dealing with how corporations manage funding sources, capital structuring and investment decisions. Corporate finance emphasizes on maximizing the financial soundness of a company and its stockholders. However, the field of corporate finance is vast and encompasses various areas of study. Firm performance comes under the head of corporate finance.

### **GCC and the manufacturing industry**

The Gulf Cooperation Council (GCC) is a political and economic union of six Middle Eastern countries including Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman, with a total area of 2,673,108 km<sup>2</sup>. The GCC was established in 1981 with the aim of promoting economic, political, and social cooperation among its member states. It has experienced significant economic growth and transformation over the past

years. The GCC has been working to diversify its economies and promote cooperation. Manufacturing is an important sector in the GCC and provides many jobs for people. Manufacturing levels and manufacturing shares of non-oil GDP have witnessed a growth in the GCC economies.

The GCC member states have taken significant steps in developing their manufacturing sectors. The GCC region's manufacturing industry has evolved over time, driven by favorable regional and global conditions. Huge investments took place in this sector. The GCC states have taken action to include incentives for investment, such as permitting loans and government purchasing policies and consolidating services and fuel prices (Aljishi, 2023). The government initiatives such as vision 2021 by UAE and vision 2030 by Saudi Arabia have emphasized the importance of economic diversification and the promotion of non-oil industries.

### **Capital structure and ownership structure**

Two important aspects of a company's financial management are its capital structure and ownership structure. One of the most important decisions a company makes is its capital structure decisions. It is a framework that helps describe how debt and equity are used to finance the operations of a firm in order to minimize risks and produce high returns for the shareholders. Determining the ideal capital structure for the company serves as one of the key considerations when making capital structure decisions. An empirical evidence from Porta et al.(2000) suggests that firms in countries with higher investor protection are more likely to use debt financing.

Boroujeni et al.(2013) in their paper state that according to Berger & Bonaccorsi Di Patti (2006) capital structure and ownership structure are two factors that have the ability to affect corporate performance. Allocation of ownership according to the voting rights and corporate capital is defined as ownership structure (Al-Thuneibat, 2018). The relationship between ownership structure and firm performance dates way back. In this study we will be more interested on documenting the role played by the magnitude of debt in the capital structure and the distribution of ownership of a firm towards firm's performance.

## **Firm performance**

The advances of technology and science in the current era of globalization has led to rapid growth in the economic growth. Therefore, this leads to high competition even in the global market. In order to deal with this competition, the firms must look into various opportunities and challenges that are available to them so that the company will be able to continue its operations and expand its activities.

Firm performance is a complex term that covers various aspects of an organization's operations such as the production of products and service, the functioning of various departments, and their performance and work results of employees. Firm performance is the measure of company performance that does not only depend on the company efficiency but also depends on the market where it operates. It is also known as financial health or financial stability. Decisions taken by the manager for running the company give us the firm performance. Financial managers perform various functions in order to achieve the objective of maximization of shareholders wealth or worth of the firm. Clash of interests between the owners of firms also called as (principals) and the managers (the

agents) is one important issue that exists in a firm. Managers enjoy various benefits such as job security, high perquisites etc. due to which they sometimes compromise organizational interest for their own satisfaction and interest.

Jensen and Meckling (1976) state that principals and agents are two different bodies and their personal interests do not go in the same direction and there always exists a conflict of such interests called agency cost. Nevertheless, there are many financial measures that can be used to assess the performance of the company. For investors, information regarding the financial performance is very important since they help them in investing. Lubatkin and Chatterjee (1994) and many other studies prove that there is a relationship between capital structure and firm value.

## **GCC Economy**

A large amount of research has been conducted in the Gulf Cooperation Council (GCC) economies, with their focus particularly on growth, development and challenges. Since the establishment of GCC in 1981 the states have undergone a huge economic and social transformation. The Gulf Cooperation Council (GCC) economy has been experiencing positive growth prospects. The economies of the Gulf Cooperation Council (GCC) have evolved significantly in the recent times. However, it is important to diversify further. The countries of GCC have been implementing various policies to support diversification and to strengthen the business environment (Callen et al., 2014). GCC's economic integration progressed by following four sequential initiatives that is customs unions, common markets, Free Trade Areas and monetary union (Al-Mawali, 2015). These phases aim to establish an economic bloc that is similar to the European Union. The

countries of GCC have been leading the way in digital transformation which has been especially accelerated by the COVID-19 pandemic. This has led to the involvement of the adoption of digital technologies like AI in order to enhance innovation, efficiency and services across various sectors. The GCC economies are pushing themselves to transform itself into knowledge economies by emphasizing more on innovation, research, technological development and entrepreneurship etc.

## **1.2 Purpose of the study**

In this study we are trying to investigate the relationship between ownership structure, capital structure and firm performance of the manufacturing industry in the GCC region in order to understand how these factors influence the financial performance of a company. Companies will be able to get an idea about how they can optimize their financial performance. This study also aims to explore how ownership structure and capital structure considerations vary across different industries and geographic regions.

## **1.3 Research objective**

Through this research our objective is:

To determine the relationship between capital structure and firm performance in the GCC region.

To determine the relationship between ownership structure and firm performance in the GCC region.

To examine how much impact does ownership structure have on firm performance in the GCC region.

To examine how much impact does capital structure have on firm performance in the GCC region.

#### **1.4 Problem statement**

In the corporate finance literature, the relationship between ownership structure, capital structure and firm performance has always been talked about a lot. Mixed results have been found out about the relationship between ownership structure and firm performance from past studies. Similarly, even the relationship between capital structure and firm performance have been debated on a lot. Some studies found a positive relationship and others found a negative relationship therefore, there is a need to investigate the relationship of ownership structure and capital structure on firm performance.

The studies that have been done in the past in GCC have mostly studied the relationship between corporate governance, ownership structure and firm performance. The lack of comprehensive research has led to a hindrance in the development of framework that could guide companies in decision making. The problem to be addressed in this study is to examine if the same results are achieved as in past studies if we only manufacturing companies were studied. Therefore, there is a need for research in the GCC that considers the impact of ownership and capital structure on firm performance while taking into account a particular industry.

## **Chapter 2: Literature Review**

### **2.1 Introduction**

The primary aim of a literature review is to assist the researcher in comprehending the existing research or articles related to the firm performance analysis of the manufacturing industry. It will help us to gain an understanding of the methodology and research that was used to analyze the firm performance of the manufacturing industry in GCC. There have been many types of research on various topics that investigated other firm's performance from different aspects.

The manufacturing industry has undergone huge growth and development in the past few decades in GCC. For a long time, the Gulf Cooperation Council (GCC) region have been focusing on manufacturing industry in order to diversify the economy and move away from the dependence on the revenue from oil (Al Awad, 2010). To reduce exposure to oil market volatility, create private sector jobs, and foster long term economic stability, this shift is essential. Huge investments took place in the manufacturing sector. The GCC states have taken action to include incentives for investment, such as permitting loans and government purchasing policies and consolidating services and fuel prices (Aljishi, 2023). Al Awad (2010) states that over the long run manufacturing is strongly linked to non-oil economic growth in the GCC

The capital structure and ownership structure are two important concerns of a firm's overall management (Chadha & Seth, 2021). They influence each other in various ways. The relationship between these two concepts has been studied in the literature. One of the important decisions that must be taken by a manager is the decision regarding the



composition of the source of funds to be used by the company (Rasyid & Linda, 2019). The ownership structure and capital structure are elements that are interconnected and can influence the financial performance of a company. A study by Omet (2006) state that the ownership structure of companies has a negative impact on capital structure measured in terms of debt to equity ratio.

A limitation of existing studies on the impact of ownership structure and capital structure on firm performance is that most studies involve regions and countries that differ in legal and regulatory issues.

## **2.2 Firm performance**

Firm performance is the ability of a business to properly utilize its resources in order to generate financial results. According to Kenton (2023) firm performance is a measure of how well a firm can use its assets to generate revenues. It measures the company's success in achieving its objectives and goals and is influenced by various factors. These goals and objectives are set through the company's vision, strategy and mission. The industry where the firm operates and the competitive environment has a significant effect on the firm performance.

Firms that are successful are essential for developing countries. Many economists believe that it is the driving force that determines economic, social and political development (Taouab & Issor, 2019). Assessing the performance of organizations has always been of utmost interest to the management and researchers (Taouab & Issor, 2019). In the 21<sup>st</sup> century's first decade, the definition of firm performance had focused on the ability of an organization to efficiently exploit resources to achieve accomplishment along with set objectives of the company (Peterson et al., 2003).

The performance of a firm can be influenced by internal and external factors. The internal factors include structure, planning, competence level, control, reward, etc. and the external factors include human resource, sources of funds, legal and regulatory aspects etc. Firm performance has become a relevant topic in recent times in the field of research and is often used as a dependent variable. Lebas and Euske (2007) tell that it is necessary to quantify the results in order to report a firm's performance level. In order to use assets from its primary business mode to generate revenue and profitability, a company's financial performance is crucial.

Signaling theory: It is the reliance on market signals as indicators for initiating trade. The management may signal something about the firm through the financial statements and information which will then be viewed as a signal by the investors.

Fathony et al. (2020) state that in order to improve stock returns, businesses should concentrate on enhancing the firm's financial performance. Firm performance is an important aspect of corporate finance, and it is measured through various methods that allows users to calculate a company's potential. In order to measure the performance of a firm, there are two approaches frequently used in research namely accounting based and market based (Al-Matari et al., 2014). Hitt et al. (1997) in their study reveal that International diversification of firm is negatively related to performance in non-diversified firms and positively related in highly product-diversified firms.

Accounting based measures measure the performance of a company by using the analysis of the firm's financial statements. ROA is the ratio that is mostly used in the performance measurement in researches. The other measures of firm performance are profitability, growth, return on equity, and Tobin's Q. Furthermore, the market-based measures involve

market-based performance measurement that represents future aspects and also will display the expectations of future firm performance by the shareholders.

The link between capital structure and ownership structure is complex, ownership composition has an impact on financing decisions performance outcomes in the organisations, especially for companies where agency problems or internal capital markets are playing a role. Firm performance is a concept that is influenced by various factors like globalization, corporate governance, innovation, etc.

### **Factors affecting firm performance of manufacturing industry**

The factors that affect the firm performance of the manufacturing industry in the GCC are complex and have many aspects. The environment of the institution also plays a crucial role to help shape the performance of a company. According to Ekadjaja et al.(2021) there is a positive significant influence between growth and firm size towards firm performance. Megawati and Dermawan (2019) reveal that firm size has a positive and significant effect on company performance. Ekadjaja et al. (2021) state that Thaibah and Faisal (2020) reveal that firm size has a positive and insignificant effect on the company performance. Sunardi and Sasmita (2019) show that growth has a positive and significant effect on company performance. Regulatory factors and government policies have significant influence on the performance of firms in the manufacturing sector (Baron & Diermeier, 2007). Also factors like investment decisions, financial risk management significantly affects the firm performance. Participation in international trade and globalization plays a significant role in the performance of manufacturing companies (Helpman et al., 2008). Technological innovation leads to increased productivity in firm performance since technology is a key factor for manufacturing industries. Shergill and

Sarkaria (1999) did a study on the impact of firm characteristics and firm performance. The results reveal that there is a positive relation between the size of the firm and the performance of the firm.

## **2.3 Ownership structure and firm performance**

**Ownership structure** tells us how people or organizations hold shares in a company. By looking at an ownership structure of a company, it tells us who owns the respective company (Nagarajan, 2021). Jensen and Meckling (1976) define ownership structure as capital commitments involving inside investors (managers) and outside investors (shareholders). It is essential for investors, managers, policymakers, and researchers to understand the impact of different ownership structures on firm performance. An increase in the shareholding structure will always go hand in hand with an increase in the firm value and an increase in the profits that are generated (Douma et al., 2003; Hermalin & Weisbach, 1991).

Alkurdi et al (2021) cites Alabdullah (2018) argument that the performance of an organization can be affected by the strategic decision-making powers of different shareholders. There have always been debates about the relationship between ownership structure and firm performance in the corporate finance literature. In order to identify the impact or relationship of ownership structure and firm performance many theoretical models and frameworks have been developed.

Demsetz (1983) was the first person who challenged the inverse relationship between ownership and firm performance (Kapopoulos & Lazaretou, 2007). In a study, Demsetz (1983) state that the ownership structure of a firm should be thought of as an outcome

that is derived internally from within the company which is influenced by shareholders profit maximization interests. A higher proportion of share ownership by investors can indicate a well-performing firm which will then attract more investors in return (Bayrakdaroglu et al., 2012).

**Corporate governance:** Corporate governance is a system that involves rules and practices that helps in controlling and directing a company. It helps in balancing out the interests of shareholders, management, customers, suppliers and lenders. It ensures if the managers behave ethically and make decisions that benefit the shareholders (Fauzi & Locke, 2012). A good corporate governance helps in reducing emerging market vulnerability to financial crisis, reduces transaction cost and leads to the development of capital market (N. Ahmed & Hadi, 2017). And firms with weak corporate governance reduces the confidence of the investors and discourages investment from outside. The improvement of commercial activities has led to a separation of ownership from management (Boroujeni et al., 2013). Boroujeni et al.(2013) quoted that according to Padilla (2002) managers are owner's representative that make decisions in order to increase a firm's value.

**Agency theory:** This theory assumes that managers run the company as per their own will and interest which do not act in the best interest of the owner. According to Jensen and Meckling (1976) principals and agents are two different bodies and their personal interests do not go in the same direction and there always exists a conflict of such interests which is called agency cost. With regard to the issue of ownership, there are two main dimensions one ownership structure and the other identity of the owners (Alireza et al., 2011). In order to control agency costs, ownership structure plays a key role in corporate

rule (Kumar, 2003). The problem of agency costs is a topic of debate in ownership structure literature because of the contrasts between managers and owners. These agency costs arise because shareholders face problem in monitoring management. Machek and Kubíček (2018) in their paper tell that although agent-manager problem can be minimized by the presence of a controlling owner this may lead to the controlling owner himself being another source of corporate governance issue. Hu and Izumida (2009) state that ownership structure is often thought as an important instrument for corporate governance to resolve the conflict of interests that arise between shareholders and managers

**Stewardship theory:** In variation to the agency theory, the stewardship theory assumes that when managers are left on their own, they will act as stewards that are responsible of the resources and assets that they control. This theory emphasizes on the fact that stewards (managers) are motivated to work for the benefit of the organization by prioritizing collective goals. The theory suggests that incentives and monitoring is not required if the managers align their goals with those of the firm.

In literature the relationship between ownership structure and firm performance has conflicting findings. Some studies suggest a positive correlation between ownership structure and firm performance while others argue that ownership structure negatively impacts the firm performance. Therefore, the impact of ownership structure on firm performance reveals a complex relationship that is influenced by various factors. There are many studies that tried to explore the relationship of ownership structure with firm performance (Ali et al., 2022; Khamis et al., 2015; Kumar, 2003; Pirzada et al., 2015; Seluzicka, 2018). These studies focused on insider ownership<sup>i</sup>, institutional ownership<sup>ii</sup>, management ownership<sup>iii</sup> etc.

Managerial ownership explores how much of the firm is owned by its managers and how this ownership will influence their decision-making. Institutional investors are frequently viewed as external monitors who can improve corporate governance and discipline management. Dakhlallah et al. (2021) in their study quoted Kumar & Singh (2013) who indicated that the presence of higher management ownership improves company performance. Institutional ownership on the other hand, play an important role in corporate governance by implementing high oversight of the performance of principals or by taking charge of the affairs of the company. Hsu (2013) investigated the effects of leverage and ownership structure on R and D expenditures and firm performance. The results reveal that ownership structure has a positive effect on R&D and firm performance.

However, in recent years other forms of ownership have been capturing lots of attention in research. Sánchez-Ballesta and García-Meca (2007) adopt a meta-analysis based on 33 studies. The findings of the study highlighted that the results regarding the relationship between ownership structure and firm performance are mixed. It showed that the overall ownership concentration and firm performance had no significant relationship. Al-Thuneibat (2018) state that ownership structure, in general, has a significant positive relationship with the performance of the firm. However, his results show that several types of ownership structure have different types of relationship with performance.

Morck et al. (1988) in their study examined the impact of managerial ownership on firm's value with a sample of 500 firms. The authors found that managerial ownership positively relates to Tobin's Q which was used as an indicator for firm value. Additionally, Rasyid and Linda (2019) report that managerial ownership has positive effect on return on asset

but has no effect on the market performance whereas institutional ownership has a positive effect on market performance but has no effect on return on asset. Dakhlallah et al. (2021) in their study state that managerial ownership, institutional ownership, government ownership, family ownership all have a significant and positive relation with firm performance. Their study was done on 180 Jordanian companies that were listed on the stock exchange. Fauzi and Locke (2012) also report a positive and significant relationship of managerial ownership on firm performance which suggests that higher managerial ownership increases firm performance. Ahmed and Hadi (2017) conducted a study about the impact of ownership structure on firm performance in the MENA region. They found that insider ownership negatively effects firm's return on equity and governmental ownership has a positive role on the firm's return on assets in the MENA region.

Ogabo et al. (2021) in a study report that all ownership structures have a positive effect on return on equity though not significantly. They run their test using fixed-effects model regression analysis. A study by Alkurdi et al. (2021) implies a negative and significant relationship between Managerial ownership and return on asset. They also reveal a positive and significant relationship between institutional ownership and return on asset. A study by Pandey & Sahu (2017) reveal that there is a significant and positive impact of almost all forms of ownership structure on a firm's accounting performance. They use return on assets and return on net worth as their indicators for firm performance. Iwasaki et al. (2022) in their paper reveal a managerial ownership in emerging markets will have a positive impact on firm performance which was in line with their hypothesis.



Another study by Seluzicka (2018) examined the impact of ownership structure on firm performance in Germany by using return on asset, return on equity and Tobin's Q as the dependent variables. The results show a significant positive relationship of institutional ownership with Tobin's Q but a negative relationship with return on asset and return on equity. They summarized their findings by stating that they were not able to find a strong and significant relationship between the ownership structure and firm performance on listed firms in Germany. Abosede and Sunday (2011) in their study on ownership structure and firm performance in Nigerian listed companies reveal a negative and significant relationship between ownership structure and firm performance where return on equity was used as an indicator for the performance.

### **Managerial ownership**

It refers to the percentage of shares that are owned by the managers in a firm. In firm performance managerial ownership is an important factor as it aligns manager's interests with the interest of the outside shareholders, therefore encouraging them to follow a value maximizing method (Mandacı & Gumus, 2010). Increased ownership by managerial owners may lead to a better performance (King & Santor, 2008). Since it means that the monetary rewards for the managers will be in a better alignment with firm goals (Alkurdi et al., 2021). However, it is also said that too much managerial ownership may lead to managers worrying about their own interests there by decreasing the value of the firm (Himmelberg et al., 1999). The relation between managerial ownership and firm performance is not very straightforward. It is complex and can be influenced by various factors. Alkkurdi (2021) mentions in his paper that according to Acharya and Bisin (2009) firm performance increases with low managerial ownership level and the firm

performance decreases when the managerial ownership level is increased. Doorasamy (2021) reveals that owners who are managers can use the debt capital more effectively in order to increase firm value compared to non-managerial owners.

### **Institutional ownership**

It refers to the stock that is held by large entities, investment firms and funds rather than individuals. Institutional ownership is often favourable since entities usually hire a team of analysts to perform detailed financial research before purchasing the company's stock. This decision becomes influential in the eyes of other investors who want to invest. It is possible for institutional owners to acquire all outstanding shares of a company because of the resources that are available to the institutions (Kenton, 2021). Since the shareholders get something in return for the capital they provide, the shareholders also try to gather as much as information needed to identify companies with the best future value (Çelik & Isaksson, 2014).

It is believed that institutional investors tend to monitor the actions of managers because they invest on behalf of other investors (Ogabo et al., 2021). According to Fung and Tsai (2012) institutional investors are large shareholders therefore, they have interest in tracking the activities of managers. Institutional investors play a substantial role in the financial market (Al-Janadi, 2021). Cornett et al. (2007) examined the relation between institutional investor involvement in the operating performance of large firms. They found a significant relation between the firm's operating cash flow returns and both the percent of institutional stock ownership and the number of institutional stockholders. According to Maug (1998), influence of institutional investors towards efficient firm performance depends on the size of their ownership.

## **2.4 Capital structure and firm performance**

**Capital structure** is the combination of debt and equity which is used by a company to finance its operations and growth. The choice of capital structure is essentially a decision to fund capital from the cheapest source in order to maximize the income after taxes (R. Ahmed & Bhuyan, 2020). According to Saona et al. (2017) nowadays capital structure has become a subject matter in the field of corporate finance. Debts occur in the form of issue of bonds or long term note payable whereas, equity comes in the form of preferred stock, reserved earnings and common stock (Ahmad et al., 2018). Capital structure is considered one of the most important when talking about corporate finance, since it deals with how a company finances its assets through debt and equity. Modigliani and Miller (1958) had proposed the Modigliani-Miller theorem. The theory states that in a perfect market the capital structure does not affect the value of the firm. Various studies have shown that ownership structure significantly influences a firm's capital structure.

There is evidence that firm-specific characteristics or micro-factors play an important role in determining a firm's capital structure (Chadha & Sharma, 2015). Most of the firms that are at the start up level use owner's equity to finance their investment and operations and as the business grows, the use of both equity as well debt increases (Kipesha & Moshi, 2014). The choosing of which finance to use is very important as one wrong decision will affect the survival of the firm. Both empirical and practical studies have been conducted on the topic of capital structure and have resulted in inconsistent results. Rasyid and Linda (2019) quotes that according to Akintoye (2016) capital structure decision is an important decision for businesses that want to maximize the wealth of the shareholders and that this decision has a significant impact on the firm's ability to compete in a competitive

environment. The level of the firm debt has increased significantly over the past few years (Rasyid & Linda, 2019). A company will be able to maintain the mixture of debt and equity but the problem that arises is whether the benefits of the proportion of debt and equity are greater than the cost. Different financial sources have different cost and benefits therefore this a problem that must be answered (Khan, 2012).

**Pecking-order theory:** This theory relates to a company's capital structure. It was devised by Myers (1984). The theory states that the managers follow a hierarchy while considering sources of financing. They first use the internal capital, followed by loans and then finally new equity. The information asymmetry between company owners and external investors is what causes this. Some studies have found that this theory is a good example of reality in certain cases. However, some studies have contradicted the theory.

**Trade-off theory:** There are many reasons that prevents a company from taking lots of debt. One reason is that the higher the debt the higher the chances of going bankrupt. This theory argues that companies determine their optimal mix of debt and equity financing by balancing the costs and benefits of each. The theory was introduced by economists Franco Modigliani and Merton Miller. The theory points that there is an advantage to financing with debt due to tax benefits but there are also costs associated with financial distress. Financial distress is a term that is used in corporate finance to indicate a condition when the revenues or income of a company no longer are bale to cover the financial obligations of the company. However, the optimal capital structure may differ for each company depending on factors such as business risk, tax environment and industry.

From the theory discussions above it can be seen that the basic purpose for all the theories is to see whether the capital structure has any impact on firm's performance or not.

Jensen and Meckling (1976) in their paper focus on the significance of equity that arises from the separation of control and ownership of companies. The gist of that theory is that according to them, a high degree of leverage can help minimize agency costs as it forces the managers to act in the best interests of the shareholders. Therefore, leading to increase in firm value. Myers (1977) approach that idea and suggested that having high debt ratio may lead to an increase in conflict between the equity and debt holders due to default risk and therefore leads to another agency cost. Blanchard et al. (1994) in their study show how managers of companies who get excessive cash tend to spend them on acquisitions and other activities which do not create any good value to the shareholders of the company.

Numerous research works have studied the relationship between capital structure and company performance. Pandey & Sahu (2017) examine the effect of capital structure on firm performance. They used return on assets and return on net worth as the measure for firm performance. The results show that the effect of capital structure measured by debt-to-equity ratio on firm performance is negative. Sunardi and Sasmita (2019) conclude that leverage has negative and significant influence on company performance. Countries with higher investor protection are more likely to use debt financing (Porta et al., 2000).

Rasyid & Linda (2019) also report a negative effect of capital structure on ROA, which is used as a measure for firm performance. Moghadam and Jafari (2014), state that there is a significant positive relationship between financial leverage and performance. Which means that firms with high debt levels are more profitable. This difference in results is

because the first two studies examine the effect of both debt and equity on the firm performance, whereas Moghadam and Jafari (2014) only consider leverage for their study. Abor (2005) investigated the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange (GSE) during a five-year period from 1998-2002. Their results reveal that capital structure which was measured in terms of short-term debt to total assets had a significantly positive relation with return on equity. However, capital structure measured in terms of long-term debt to total assets was found to have a negative relation with return on equity. Another study by Mesquita and Laura (2003) conducted on 70 Brazilian companies reveal that the firm performance measured as return on equity showed a positive correlation with short-term debt and an inverse correlation with the long-term debt.

Roden and Lewellen (1995) found a positive relation between profitability and capital structure. They had employed a sample of 48 U.S. firms during the period 1981-1990. The presence of institutional investors positively influences the firm performance through proper monitoring and active involvement in corporate governance (Agrawal & Knoeber, 1996). Margaritis and Psillaki (2010) found a significant and positive relation between leverage and firm performance. They used a sample of low and high growth companies of French firms from the period of 2003-2005. Tianyu (2013) examined the effect of capital structure on both market in developing countries as well as markets from developed countries. A sample of 1200 listed companies in Germany and Sweden and more than 1000 listed companies in China in the period 2003-2012 was used. The results revealed that capital structure has a significant negative effect on the firm performance in

China whereas, there was a significant positive effect in the firm performance of the two European countries that are Germany and Sweden.

Olajide et al. (2017) examined the effect of capital structure on firm performance in Nigeria. They report a negative and significant relationship of capital structure with the Nigerian firms. A meta-analysis by Dao and Ta (2020) found corporate performance to be negatively related to the capital decisions in both the models fixed-effects and random-effects. Manawaduge et al. (2011) revealed that in Sri Lankan firms, firm performance is negatively affected by the use of debt. Their study was conducted on 155 Sri Lankan-listed firms by using pooled and panel data regression models. The results demonstrate that most of the Sri Lankan firms finance their operations with short-term debt capital as against the long-term debt.

Salim and Yadav (2012) studied the relationship between capital structure and firm performance by using a sample of 237 Malaysian listed companies on the Bursa Malaysia Stock exchange during 1995-2011. They found that the firm performance measured by ROA and ROE has a negative relationship with capital structure. Another study by Zeitun and Tian (2007) also revealed a negative effect of capital structure on the firm's performance. Their study was conducted on 167 Jordanian companies during 1989-2003.

NGUYEN and NGUYEN (2020) conduct a study of non-financial listed companies on the Vietnamese stock market employing Generalized Least Square (GLS) method. The results show a significant and negative effect of capital structure on firm performance. An empirical investigation by Ayaz et al.(2021) on the impact of capital structure on firm performance in Malaysia revealed that leverage has both positive and inverse impacts on firm performance, depending on the level of leverage and the type of firm. Ebrati et al.

(2013) observed that firm performance measured by ROE and Tobin's Q is significantly and positively associated with capital structure whereas firm performance measured by ROA and EPS report a negative relation with capital structure. Amjed (2011) reports a significant negative relationship between long term Debt and firm's performance and a significant positive relationship between short term debt and the profitability. His study was conducted on firms in the Chemical Sector of Pakistan.

Hasan et al. (2014) studied the influence of capital structure on firm performance in Bangladesh by using ROA as the dependent variable. They found a significant negative relation between ROA and capital structure. Gleason et al.(2000) had concluded in their study that high levels of debt in the capital structure would reduce the firm's performance. They found that capital structure has a statistically significant negative effect on the variables of firm performance which in this case were return on asset and growth in sales. Another study by Boshnak (2023) reveal that short-term debt, long-term debt, total debt and debt-to-equity ratios all have a significant negative impact on firm operational performance estimated by ROA. Similarly, long-term debt, total debt, and debt-to-equity ratios negatively affected firm financial performance estimated by ROE. The study was conducted on Saudi non-financial listed firms while employing panel data for 70 firms.

Some studies even determined weak or no link at all. Phillips and Sipahioglu (2004) in their empirical analysis revealed that there was no significant relationship between the level of debt found in the capital structure and financial performance of the firm. Their study was conducted on 43 UK organisations. Al- Taani (2013) also report that capital structure is not a major determinant of firm performance. The sample used for the study was 45 manufacturing companies listed on the Amman Stock Exchange. A Multiple



regression analysis was applied on the firm performance indicators and capital structure indicators to arrive at the conclusion. Another study by El-Sayed Ebaid (2009) investigated the impact of capital structure choice on firm performance in Egypt. His findings reveal that the capital structure decision has a weak-to-no impact on firm's performance. The relationship between capital structure and firm performance is complex and influenced by various factors. Understanding their relationship is crucial for policy makers and managers as it will help them understand decisions regarding capital structure choices, formulation of policy and risk management.

### **Capital structure**

It is the combination of debt and equity that is used by a company to finance its operations. This is very crucial for the firm's financial management since it regulates the stability and risk profile of the company. The risk a company faces will be higher if the debt of the company is large since it may lead to bankruptcy or financial distress if the firm is not able to earn profits and meet the expectations of the shareholders. In the case of bankruptcy, the seniority of capital structure comes into play. An optimal capital structure is one which minimizes the cost of debt and equity financing and maximizes the shareholder's value. According to Manawaduge et al.(2011)'s study Harris and Raviv (1991) argue that the debt instruments in the capital structure provide more power to investors and therefore, can discipline management by reducing the discretionary power of the management on free cash flow of the firm.

**Market timing theory:** It is a theory that refers to the idea that firms and investors predict the market trends and adjust their investment strategies accordingly. Baker and Wurgler

(2002) supported this theory by showing that market conditions significantly influence capital structure decisions. Baker and Wurgler (2002) found evidence supporting the idea that the firms issue equity when they perceive their stock to be overvalued.

Capital structure continues to be in the center of research in the corporate finance field. The trade-off theory, pecking order theory, agency theory and market timing theory are all the primary frameworks that are used to understand these capital structure decisions. Roshan (2009) states in his paper that according to Simerly and Li (2000) top firms in management through theoretical models are able to calculate the optimal capital structure but in real life situations many researchers found out that most of the firms do not have an optimal capital structure.

### **Factors affecting Capital structure**

The factors that affect the capital structure are both firm specific as well as country specific. Through researches it can be seen that firm specific factors include factors like growth opportunity, size, tangibility, profitability, etc. whereas country specific factors include factors like economic growth, state of the global economy, etc. Khaki and Akin (2020) conducted a study in the GCC region on the factors affecting the capital structure. They reveal that size, tangibility and growth opportunities have positive impact on leverage and on the other hand profitability, age, financial constraints, liquidity, and government ownership affect the leverage negatively.

In a study by Titman & Wessels (1988) reveals that transaction costs may be an important determinant of capital structure choice. Another study by Alitani (2020) reveals that the

country-specific factors were shown to have an insignificant impact on debt ratios in the GCC region whereas they were more strongly correlated to the firm specific factors like size tangibility and growth. Equity financing is a type of financing that offers flexibility to its shareholders thereby, offering equity shares does not create any immediate obligation to pay. Therefore, equity financing might be preferred more by companies in order to retain their control over the decision making (S. C. Myers, 1984). This will also help in avoiding financial distress.

## **2.5 Return on assets (ROA)**

For the purpose of firm performance measurement and research the most used financial ratio is return on assets (ROA). Return on asset measures how profitable a company is in relation to its total assets. Return on asset is the measure of a company's ability to generate profits from its assets. In investigations analysts often use ROA in their investigations related to a firm's performance, financial position and future expectations (Jewell & Mankin, 2011). A company with higher ROA means that the company is more efficient and productive at managing its balance sheet leading to generation of higher profits.

It helps analysts, management and investors to determine if the company is using its assets efficiently. Value of a company's assets are compared with the profits by ROA over a set period of time. Return on asset is a useful tool for comparing companies that compete with each other in the same industry. Most of the studies employ quantitative methods to analyze ROA. Prananingrum et al.(2018) in their study reveal that Return on Asset has a positive and significant effect on firm value. Regression analysis, correlation

analysis, and panel data analysis are commonly used to examine the relationship of various factors with return on asset. However, return on asset has some limitations such as it is not always comparable across different industries (CEPF®, 2023).

## **2.6 Return on equity (ROE)**

ROE is also a financial performance metric that shows how profitable a company is. Return on equity is an important metric in financial analysis which, reflects a company's efficiency in generating profits from the shareholder's equity. Dividing a company's annual net income by its shareholders' equity gives us the return on equity value. It is expressed as a percentage. The higher the ROE, the more efficient a company's management is at generating income and growth from its equity financing (Ahsan, 2012). It is a valuable insight into a company's operations. While using ROE for comparing companies, it is necessary to compare companies within the same industry (Furhmann, 2023). Prananingrum et al.(2018) reveals that Return on Equity has a positive but not significant effect on firm value. In a study, Bunea et al. (2019) find that the important financial indicators that affect ROE are net profit margin, total asset turnover, and financial leverage. ROE is a widely used financial performance metric. There are many researches that suggest that corporate governance can positively affect return on equity.

## **Chapter 3: Methodology**

### **3.1 Research questions and hypothesis**

This study aims to address what type of relationship does ownership structure and capital structure have with the firm performance in the GCC region. How do ownership structure and capital structure impact the firm performance? How do managerial ownership and institutional ownership, affect the firm performance of companies in the GCC region? Getting the answers to these questions will help us gain insight about the complex relationships of ownership structure, capital structure and firm performance.

#### ***Hypotheses***

*H1:* There is a negative relationship between capital structure and firm performance.

*H2:* There is a positive relationship between managerial ownership and firm performance.

*H3:* There is a negative relationship between institutional ownership and firm performance.

### **3.2 Research methodology**

In order to investigate the relationship between ownership structure, capital structure and firm performance the research will be a quantitative study using secondary data. This study investigates the relationship of ownership structure and capital structure with firm performance. For this, the study will use a moderately balanced panel data from 2013-2022 of manufacturing firms in the GCC region that are listed on the GCC Stock Exchanges. Data will be collected from the financial statements and publicly available

sources. The data will be analyzed using panel regression. The regression models will be used to test the research questions. The research has employed E-views software to analyze the correlation analysis and the multiple regression models. For the estimation of the model analysis, we will be opting Fixed effect model and Random effect model. Hausman test will also be done to test for endogeneity in a regression model.

### **Panel regression**

It is a type of econometric analysis that is used estimate the relationship between variables in a dataset where the same entities are observed over multiple periods of time for multiple units. It allows for the estimation of models that account for correlation of errors within units over time. Panel analysis is data-intensive and requires careful consideration. The panel regression method will give us the result of estimation which is Best Linear Unbiased Estimation (BLUE). Using a panel data for investigation has few advantages over using a time series or cross-sectional data analysis models (Ogabo et al., 2021). The variance of the error term is assumed to be constant across all observations. The observations in the panel are randomly sampled from the data. The main goal of a regression analysis is to understand the relationship between a dependent variable and one or more independent variable. The panel regression models include the fixed effect model and random effect model.

## **Fixed effect model**

Fixed effect model is a statistical model where the model parameters are considered fixed or non-random. It is a method of controlling all variables, whether they are observed or not. Mundlak (1978) lays the theoretical foundation for the use of fixed effect models in panel data analysis and it also introduces the fixed effects approach to account for unobserved individual heterogeneity. The fixed effect assumes that the differences between individuals (cross section) can be accommodated from different intercept (Zulfikar, 2018). In a fixed effect analysis it is assumed that all the included studies share a common effect size (Borenstein et al., 2007). The fixed effect model is a powerful tool to analyze panel data, especially when the research is dealing with unobserved individual-specific effects. Researchers will be able to better estimate the relationships between variables of interest.

## **Random effect model**

The random effect model was first introduced by Ronald Fisher in 1918 to study the correlations of trait values between relatives. Random effect model is a statistical model which is used for analyzing data with a hierarchical structure or data with repeated measures. In a random effect model the explanatory variables are allowed to vary randomly across the clusters, rather than being fixed at a single value. This model will estimate the panel data where the inference variables may be interconnected between time (Zulfikar, 2018). The benefit of using this model is that it helps to eliminate heteroscedasticity. Borenstein et al (2007) provide a comprehensive guide to meta-analysis that includes the use of random effects models to estimate the overall effect size.

The random effect model is often used in places where longitudinal data is and where the observations are measured repeatedly over a period of time. Random effects model produces larger standard errors and wider confidence intervals (Riley et al., 2011). Random effects model in a regression analysis assumes that the studies being analyzed are drawn from a larger population of studies.

### **Hausman Test**

The Hausman test is developed by the economist Jerry A. Hausman in 1978. It is used to determine the appropriate model specification for regression analysis, particularly in panel data models. It is a specification test based on the difference between the fixed effect and random effect estimators. It is a method which is used to compare the efficiency of two estimators. It will help us determine which estimator from fixed effect and random effect is more efficient. The researchers will be able to determine which is the most appropriate specification for their data. This test is widely used in researches and it determines if there is a significant difference between both the estimators. It is a valuable test in econometrics for assessing the presence of endogenous variables and selecting the most appropriate regression model. Despite its critiques this test remains one of the widely used among researchers due its simplicity and effectiveness.

### **Model specification**

The objective of this study is to examine the relationship of ownership structure and capital structure with the firm performance in the GCC region. To do this we will be using



a variant of the models used by Ali et al. (2022), Rasyid and Linda (2019) and Al-Thuneibat (2018). The study uses dependent variable, independent variables and control variables. The dependent variable is firm performance measured by return on assets (ROA) and return on equity (ROE) and the independent variables are capital structure which will be measured as debt-to-equity ratio and ownership structure in the form of managerial ownership and institutional ownership. Meanwhile, the control variables are liquidity, firm size, and economic growth.

$$(i) FP(ROA)_{i,t} = \alpha_0 + \beta_1(DER) + \beta_2(MNGERIAL) + \beta_3(INST) + \beta_4(LIQ) + \beta_5(FS) + \beta_6(ECOG) + \mu_{i,t}$$

$$(ii) FP(ROE)_{i,t} = \alpha_0 + \beta_1(DER) + \beta_2(MNGERIAL) + \beta_3(INST) + \beta_4(LIQ) + \beta_5(FS) + \beta_6(ECOG) + \mu_{i,t}$$

Where:

$Y_{it}$  = dependent variables of firm  $i$  at time  $t$

$\alpha$  = constant

$\beta$  = coefficients

$\epsilon_{it}$  = the residual error of firm  $i$  observation at time  $t$

ROA= Net Income / Avg Total Assets

ROE= Net Income / Shareholder's Equity

DER= Total debt / Total equity

LIQ= Current assets / current liabilities

**Table 1:Description of variables**

<b>Variable</b>	<b>Definition</b>	<b>Measurement</b>
Firm Performance (FP)	Firm performance is the end results achieved by an organization.	Measured by ROA and ROE
Institutional Ownership (INST)	Ownership of shares in a company that are held by large financial institutions, endowments and pension funds is called institutional ownership.	Measured by the percentage of shares held by institutional investors
Managerial Ownership (MNGERIAL)	Shares held by the management who actively participate in corporate decisions.	Measured as the percentage of company's shares owned by executive directors and their families.
Debt-to-equity (DER)	Capital structure is a mix of debt and equity that is used to finance a company's operations and assets.	Measured as the as the ratio of total debt to equity.
Liquidity (LIQ)	It is the amount of money an individual or corporation has on hand and the ability to quickly convert assets into cash.	Measured by dividing current assets by current liabilities of a company.
Firm size (FS)	It is the size of the firm.	Measured by Total assets.

Economic growth (ECOG)	It is an increase in the production of economic goods and services in one period of time compared with a previous period.	Measured in terms of the increase in aggregated market value of additional goods and services produced, using estimates such as GDP.
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**Control variables**

Liquidity: Liquidity plays an important role in the financial system. It is the ability of the of financial institutions to meet their short-term obligations (Nikolaou, 2009). It is an important factor in determining the firm performance. It is said that the greater the value of current assets available in a company, the more liquid a company is. Researches show that there is a positive and significant impact of liquidity on the performance of the company (Ekadjaja et al., 2021).

Firm size: It is used as a control variable because it is a variable that is considered important and can influence many aspects of a firm’s performance and behavior. We use this variable to account for its impact on the dependent variable that is being studied. Which in this case is return on asset and return on equity. Various studies have indicated that firm size does have an impact on the performance of a firm. It represents a company’s share in the market.

Economic growth: Including Economic growth as a control variable aims to account for its influence on the relationship between the variables that are being studied. It is an important factor that affects various aspects of the economy.

## Chapter 4: Analysis and discussion

The core objective of the study was to find out the influence of capital structure and ownership structure on firm performance. The determinants of ownership structure are managerial ownership and institutional ownership. Debt to equity ratio was used to determine the capital structure.

The data consists of 54 manufacturing companies listed in the GCC stock exchanges. Observations had been done for 10 years with the total of 480 observations. Table 2 reports the descriptive statistics on the variables used in the subsequent analysis.

### 4.1 Descriptive statistics

Descriptive statistics is used to summarize and describe variables for a sample of data. A total number of 480 observations were taken out of a 10 years data (2013-2022) of 54 GCC listed companies of the manufacturing industry and the mean, median, minimum, maximum and standard deviation of each dependent, independent and control variable was computed. A tabular summary of the findings and an explanation of the findings are provided below.

**Table 2: Descriptive Statistics**

	ROE	ROA	DER	MNGERIAL	INST	LIQ	FS	ECOG
Mean	3.670047	3.693998	57.5755	4.978927	24.97772	2.762093	1424.738	2.290291
Median	5.2454	3.51615	19.53595	0	17.5335	1.94745	965.0902	2.762244
Maximum	41.6198	30.7648	964.9908	70	84.11	12.5671	6350.813	8.860759

Minimum	-160.277	-52.5026	0	0	0	0.3141	2.4715	-8.85528
Std. Dev.	17.05842	7.666684	110.1658	9.863199	23.87362	2.137776	1490.624	3.582337
Skewness	-4.21934	-0.61935	3.871451	3.332939	0.874867	1.656409	1.087976	-0.53992
Kurtosis	36.01084	9.973081	21.87315	17.52129	2.657728	6.088515	3.425528	3.432992
Jarque-Bera	23218.53	1003.165	8322.968	5106.034	63.57434	410.2737	98.31685	27.07102
Probability	0	0	0	0	0	0	0	0.000001
Sum	1761.623	1773.119	27636.24	2389.885	11989.31	1325.805	683874.2	1099.34
Sum Sq. Dev.	139384	28154.69	5813381	46598.41	273005.9	2189.071	1.06E+09	6147.072
Observations	480	480	480	480	480	480	480	480

The table shows that the ROA ranges between -52.50 and 30.76 and ROE ranges between -160.27 and 41.62. During the study from the period (2013-2022) the companies achieved a positive profit with a mean value of 3.694 and 3.670 respectively.

Furthermore, the table shows that the mean of each type of the ownership is less than 50%. The table also shows that the debt-to-equity ratio has a mean of 57.57 which indicates that more than 50% of the capital structure of the manufacturing companies in GCC, are financed by debts. The mean value of managerial ownership is 4.978 and its standard deviation is 9.86. Institutional ownership has a mean value of 24.97 with a standard deviation of 23.87.

The mean value of liquidity is 2.762. It has a standard deviation of 2.137, the minimum and maximum values range from 0.314 and 12.567 respectively. It shows how quickly companies can react and adapt to changes in their environment. The size of the firm which has been calculated by the number of total assets has a mean of 1424.73 and it ranges

between 6350.814 and 2.4715. The last controlling variable economic growth has a mean value of 2.29 and it ranges between 8.86 and -8.85.

## 4.2 Correlation Analysis

This is a statistical method which is used to measure the strength and direction of the linear relationship between two variables. It measures the degree to which two variables are linearly related. In research it is used to analyze quantitative data that is gathered.

Table 3 shows the correlation analysis. It reports the results of the Spearman Correlation, which was employed to investigate the relationship between ownership structure, capital structure, FP, and control variables. As per Field (2009) the correlation between independent variables should be no greater than 0.80. From the table below we find that the association between variables is generally at a low level. All correlation coefficients are less than 0.8, therefore, we conclude that there is no any indication of multicollinearity among the explanatory variables.

**Table 3: Correlation Matrix**

	ROE	ROA	DER	MNGERIAL	INST	LIQ	FS	ECOG
ROE	1.0000	0.8364	-0.4501	0.0238	-0.0603	0.1888	0.1876	0.0980
ROA	0.8364	1.0000	-0.3472	0.0310	-0.0637	0.2453	0.3200	0.1189
DER	-0.4501	-0.3472	1.0000	0.0789	-0.1498	-0.3816	-0.1010	-0.0564
MNGERIAL	0.0238	0.0310	0.0789	1.0000	-0.2797	-0.0985	0.0022	0.0119
INST	-0.0603	-0.0637	-0.1498	-0.2797	1.0000	0.0682	-0.1553	-0.0060
LIQ	0.1888	0.2453	-0.3816	-0.0985	0.0682	1.0000	-0.0511	-0.0302
FS	0.1876	0.3200	-0.1010	0.0022	-0.1553	-0.0511	1.0000	0.1072
ECOG	0.0980	0.1189	-0.0564	0.0119	-0.0060	-0.0302	0.1072	1.0000

From the above table we find that ROA is positive and significantly correlated with MNGERIAL ( $r = 0.03$ ), LIQ ( $r = 0.24$ ), FS ( $r = 0.32$ ) and ECOG ( $r = 0.118$ ). And ROA is negative and significantly correlated with DER ( $r = -0.347$ ) and INST ( $r = -0.06$ ). Whereas ROE is positive and significantly correlated with MNGERIAL ( $r = 0.0238$ ), LIQ ( $r = 0.188$ ), FS ( $r = 0.187$ ) and ECOG ( $r = 0.098$ ). And ROE is negative and significantly correlated with DER ( $r = -0.45$ ) and INST ( $r = -0.06$ ).

### **4.3 Hausman Test**

It is a statistical method which is used to compare the efficiency of two estimators. Hausman test is widely used in research to decide which model to use between a fixed effects model and a random effects model. This test determines if there is a significant difference between the fixed effect and random effect estimators. The hypothesis of the Hausman Test is as follows:

H0: Random effects model is appropriate

H1: Fixed-effects model is appropriate

The rule of thumb of this test is that if the probability value is less than the significance level ( $\alpha = 0.05$ ) then we will reject the null hypothesis.

**Table 4: Hausman Test**

Variable	ROA				ROE			
	Fixed	Random	Var(Diff.)	Prob.	Fixed	Random	Var(Diff.)	Prob.
DER	-0.01765	-0.0187	0.000006	0.6747	-0.10851	-0.09224	0.00003	0.0032
MNGERIAL	0.015294	0.028735	0.000928	0.6591	-0.16194	0.010918	0.004525	0.0102
INST	-0.05011	-0.0333	0.000264	0.3011	-0.10139	-0.08888	0.001287	0.7273
LIQ	0.441505	0.489303	0.009339	0.6209	0.395804	0.187091	0.04614	0.3312
FS	0.002341	0.001482	0.000001	0.3539	0.009508	0.002122	0.000004	0.0003
ECOG	0.201725	0.197095	0.000096	0.6372	0.277862	0.296706	0.000476	0.3879

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.375017	6	0.7605	30.086426	6	0.0000

As the results of Hausman specification test presented in the above table 4 suggest the random effects model is more feasible to use than fixed effects model for the first regression with ROA as the dependent variable. As the p-value (0.7605) is greater than 0.05 for dependent variables the null hypothesis should be accepted, and the random effects model should be employed.

And as for the second regression with ROE as the dependent variable the fixed effects model is more feasible to use than random effects model. As the p-value (0.0000) is less than 0.05 for dependent variables the null hypothesis should be rejected, and the fixed effects model should be employed.



## 4.4 Regression Analysis Results

### 4.4(i) Random effect model estimates of ROA

Estimating random effects allows us to infer about specific levels, but also gives us population-level information, which in turn allows us to know about levels that are not present. By taking into account the error terms for each company, a random effect model mitigates the difference in interception.

**Table 5: Random effect model estimates of ROA**

Dependent Variable: ROA

Method: Panel EGLS (Cross-section random effects)

Date: 03/14/24 Time: 14:50

Sample: 2013 2022

Periods included: 10

Cross-sections included: 54

Total panel (unbalanced) observations: 480

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.543584	1.169742	1.319593	0.1876
DER	-0.018696	0.003724	-5.020007	0.0000
MNGERIAL	0.028735	0.038282	0.750621	0.4533
INST	-0.033303	0.018519	-1.798324	0.0728
LIQ	0.489303	0.181564	2.694941	0.0073
FS	0.001482	0.000387	3.831012	0.0001
ECOG	0.197095	0.073781	2.671365	0.0078
Effects Specification				
			S.D.	Rho
Cross-section random			3.918252	0.3278
Idiosyncratic random			5.611539	0.6722
Weighted Statistics				
R-squared	0.134416	Mean dependent var		1.573720
Adjusted R-squared	0.123436	S.D. dependent var		5.968170

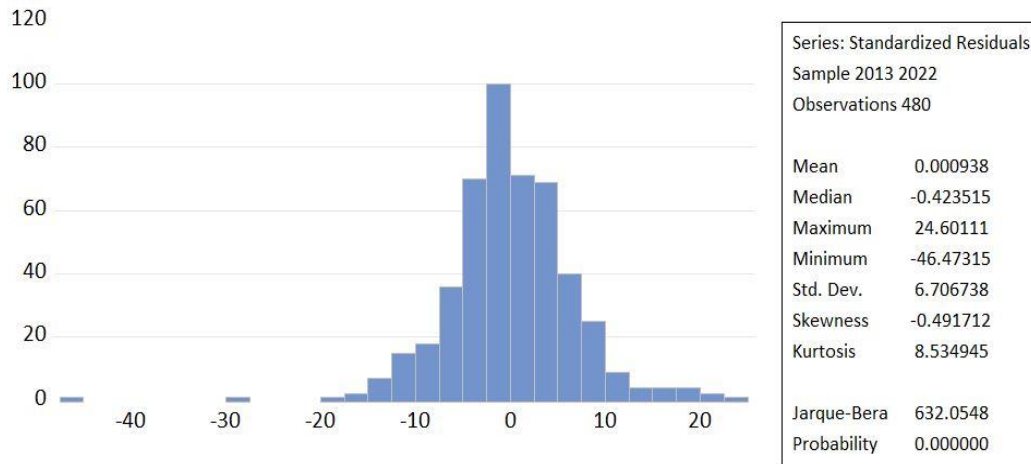
S.E. of regression	5.584948	Sum squared resid	14753.65
F-statistic	12.24201	Durbin-Watson stat	0.791577
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.234743	Mean dependent var	3.693998
Sum squared resid	21545.58	Durbin-Watson stat	0.542044

From the table above we see that the R-squared is 0.234743. It tells us that only 23.4743% of variation in ROA is explained by the independent variables DER, MNGERIAL, INST, LIQ, FS and ECOG. The F-statistic value is 12.24201 that indicates that the model used in this study is statistically significant.

#### **Table Analysis:**

Based on the results of the study, it was found that debt-to-equity ratio (DER) has negative and significant relation with ROA with a coefficient of -0.018696 and a probability of 0.0000 at 10% significance level. The result of this study is in line with the studies conducted by (Rasyid & Linda, 2019; Pontoh & Ilat, 2013; Hasan, Ahsan, Rahaman, & Alam, 2014). Managerial ownership (MNGERIAL) has a positive and insignificant relationship with ROA with a coefficient of 0.0287 and a probability of 0.4533 at 10% significance level. The result of this study is in line with studies supported by (Al-Thuneibat, 2018; WAHYUNI & LESTARI, 2021). Institutional ownership (INST) has a significant and negative relationship with ROA with a coefficient of -0.033 and has a probability of 0.0728 at 10% significance level. This conclusion is in line with (Tsouknidis, 2018). The control variables LIQ, FS and ECOG all have a significant and positive relationship with the dependent variable.

## Normality Test ROA



### 4.4(ii) Fixed effect model estimates of ROE

A fixed effects model is a statistical model in which the model parameters are fixed or non-random quantities. In a fixed effects model, group means are modeled as fixed quantities for each grouping, helping control for omitted variable bias due to unobserved heterogeneity.

**Table 6: Fixed effect model estimates of ROE**

Dependent Variable: ROE

Method: Panel Least Squares

Date: 03/14/24 Time: 15:00

Sample: 2013 2022

Periods included: 10

Cross-sections included: 54

Total panel (unbalanced) observations: 480

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	-2.019584	3.673194	-0.549817	0.5827
DER	-0.108514	0.009764	-11.11313	0.0000
MNGERIAL	-0.161939	0.106585	-1.519335	0.1294
INST	-0.101391	0.053672	-1.889095	0.0596
LIQ	0.395804	0.448082	0.883329	0.3776
FS	0.009508	0.002187	4.347998	0.0000
ECOG	0.277862	0.162151	1.713597	0.0873

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Effects Specification

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Cross-section fixed (dummy variables)

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R-squared	0.549668	Mean dependent var	3.670047
Adjusted R-squared	0.486408	S.D. dependent var	17.05842
S.E. of regression	12.22498	Akaike info criterion	7.961308
Sum squared resid	62769.03	Schwarz criterion	8.483031
Log likelihood	-1850.714	Hannan-Quinn criter.	8.166386
F-statistic	8.688918	Durbin-Watson stat	0.950729
Prob(F-statistic)	0.000000		

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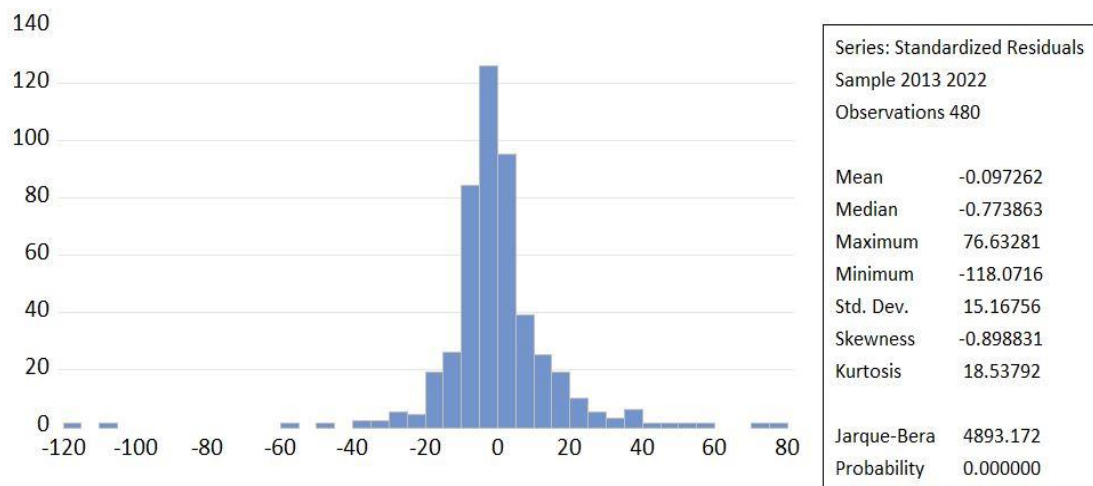
From the table above we see that the R-squared is 0.549668. It tells us that 54.9668% of variation in ROE is explained by the independent variables DER, MNGERIAL, INST, LIQ, FS and ECOG. The F-statistic value is 8.688918 that indicates that the model used in this study is statistically significant.

**Table Analysis:**

From the results we can see that debt-to-equity ratio (DER) has negative and significant relation with ROE with a coefficient of -0.108514 and a probability of 0.0000 at 10% significance level. The result of this study is in line with the study conducted by (Javed

& Akhtar, 2012; NGUYEN & NGUYEN, 2020). Managerial ownership (MNGERIAL) has a negative and insignificant relationship with ROE with a coefficient of -0.1619 and a probability of 0.1294 at 10% significance level. However, it is inconsistent with (Ogabo et al., 2021) who found that Managerial ownership has positive and insignificant relationship with ROE. Institutional ownership (INST) has a significant and negative relationship with ROE with a coefficient of -0.1013 and has a probability 0.0596 of at 10% significance level. The result of this study is in line with the study conducted by (Ali et al., 2022).

### Normality Test ROE



## Combined Analysis:

**Table 7: Results**

Dependent variable	ROA				ROE			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
C	1.543584	1.169742	1.319593	0.1876	-2.019584	3.673194	-0.549817	0.5827
DER	-0.018696	0.003724	-5.020007	0.00000	-0.108514	0.009764	-11.11313	0.00000
MNGERIAL	0.028735	0.038282	0.750621	0.4533	-0.161939	0.106585	-1.519335	0.1294
INST	-0.033303	0.018519	-1.798324	0.0728	-0.101391	0.053672	-1.889095	0.0596
LIQ	0.489303	0.181564	2.694941	0.0073	0.395804	0.448082	0.883329	0.3776
FS	0.001482	0.000387	3.831012	0.0001	0.009508	0.002187	4.347998	0.00000
ECOG	0.197095	0.073781	2.671365	0.0078	0.277862	0.162151	1.713597	0.0873
R-squared	0.134416				0.549668			
Adjusted R-squared	0.123436				0.486408			
F-statistic	12.24201				8.688918			
Prob(F-statistic)	0.0000000				0.0000000			

Based on the result of the study it can be seen that capital structure represented by debt-to-equity ratio has a negative impact on firm performance represented by return on assets and return on equity in the manufacturing companies listed on the GCC stock exchange. And the null hypothesis of negative relationship between capital structure and firm performance will be accepted. In the case of managerial ownership, we can see that it has a positive relation with ROA and a negative relation with ROE. Therefore, in the first model with ROA we will accept the null hypothesis and for the second model with ROE we will reject the null hypothesis. As for institutional ownership it can be see that it has a negative relation with both ROA and ROE. Therefore, we will accept the null hypothesis.

## **Chapter 5: Conclusion**

The purpose of this study is to investigate the relationship between capital structure, ownership structure and firm performance among the GCC manufacturing countries between 2013 to 2022. The study used fixed effect and random effect models to come to the conclusion.

Based on the findings where ROA is the dependent variable it is possible to conclude that capital structure has a negative and significant effect on ROA. Which indicates that a higher proportion of debt in the capital structure is associated with lower firm performance. Ownership structure in the form of managerial ownership has a positive and insignificant relation with ROA. This means that even though there is a trend of higher ROA with higher managerial ownership, the difference is not big enough to be considered statistically significant. Whereas ownership structure in the form of institutional ownership has a negative and significant effect on ROA. This suggests that high level of institutional ownership is associated with lower profitability for the firm. One possible reason could be that the institutional investors may be prioritizing short-term returns over long term growth which could lead to decisions that would not be in the best interest of the company's lasting profitability.

Based on the findings where ROE is the dependent variable, we can conclude that capital structure has a negative and significant relation with ROE. The negative correlation suggests that increasing debt relative to equity is associated with a decrease in ROE. It is negatively affecting the company's ability to generate profits for its shareholders. Ownership structure in the form of managerial ownership has negative and insignificant effect on ROE. This suggests that higher percentage of shares held by management does

not necessarily lead to improvement in firm performance. On the other hand, ownership structure in the form of institutional ownership has a negative and significant relation with ROE. It indicates that an increase in institutional ownership may lead to a decrease in the return on equity for the company. The institutional owners may have different goals and strategies as compared to the individual investors.

### **Significance of the study**

This study determines the impact of ownership structure and capital structure on firm performance in the GCC region. Ownership structure is considered a tool of corporate governance that ensures the well-being of shareholders and achieve the organizational goals. Understanding the relationship between these factors is important for firms as it will help them to make informed decisions and improve their performance. Analyzing their relationship will help in assessing the impact of these factors on the company's financial health and overall success. It will help regulatory bodies to use this knowledge to design policies that will promote transparency and sustainable financial practices. It will act as a guide to firms in optimizing their financing mix to enhance their performance.

### **Limitations and Recommendation**

This study is limited to the manufacturing companies in the GCC region. The financial companies were excluded due to the specific regulations that govern these companies. Some manufacturing companies were excluded since limited data was available. There has been done limited research on the impact of ownership structure on financing decisions. The relationship between ownership structure and capital structure is complex and requires further research and analysis to fully understand their impact on a company's



overall health and growth. This study has been conducted only by including internal factors therefore in the future researchers can consider external factors such as tax and risk etc. for their studies. In the future the impact of concentrated ownership and board characteristics on firm performance can also be researched on for more insight.

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<sup>i</sup> It is the percentage of shares owned by managers, directors and other insiders of the company directly or through private firms.

<sup>ii</sup> Ownership of shares in a company that are held by large financial institutions, endowments and pension funds is called institutional ownership

<sup>iii</sup> It is the percentage of shares held by the management who actively participate in corporate decisions.