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## Financial Resilience:

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Effat University  
Jeddah, Saudi Arabia  
Deanship of Graduate Studies and Research

This thesis, written by Maryam Omar Alamoudi 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 Accounting and Finance in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in Finance

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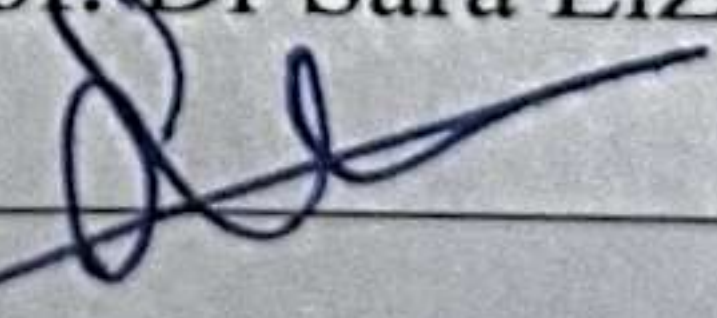
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Effat University  
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## **Financial Resilience: Analysis of the Saudi Real Estate Market During the Pandemic**

**المرونة المالية: تحليل أداء القطاع العقاري السعودي خلال جائحة الكورونا**

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of MSc. in  
Finance

By

Maryam Omar Alamoudi

Supervised by:  
Asst. Prof. Dr. Edib Smolo

1446 – 2024

Effat University  
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## **Declaration**

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

Maryam Omar Alamoudi

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This thesis marks the pinnacle of a long journey started in 2014, and I am grateful to be able to reach this point. I extend my sincere gratitude to my supervisor, Assistant Professor Edib Smolo, whose teachings and insights throughout the program have guided me, especially their dedication to knowledge and encouragement have left a lasting impact on me.

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## **Abstract**

This study examines the financial resilience of publicly listed real estate companies and Real Estate Investment Trusts (REITs) in Saudi Arabia during the COVID-19 pandemic. Employing panel data quantitative analysis, a sample of 24 companies, comprising 12 real estate companies and 12 REITs, over a five-year period (2019–2023), the research analyzes the impact of financial and macroeconomic variables on company performance, measured by Return on Equity (ROE). Key independent variables include debt-to-equity ratio, Company Size, current ratio, cash flows, and macroeconomic factors such as repo rate, COVID-19 case trends, and a pandemic dummy variable.

The results reveal a significant negative relationship between debt-to-equity ratio and ROE, emphasizing the importance of conservative debt management for financial performance. Company Size and liquidity also exhibit mixed effects, with inefficient use of liquidity contributing to diminished returns. REITs demonstrate greater financial stability compared to traditional real estate companies, suggesting their superior ability to manage economic shocks. The findings further highlight the moderating role of interest rates in mitigating the financial strain on highly leveraged companies during periods of economic uncertainty.

Policy implications include encouraging conservative debt policies, enhancing liquidity management practices, and promoting REITs through favorable regulatory frameworks. Additionally, flexible monetary policies, improved macroeconomic risk management, and enhanced financial literacy for industry stakeholders are recommended to bolster resilience in the real estate sector. These measures aim to guide companies in utilizing and optimizing their capital structures and improving their adaptability to future economic disruptions.

**Key words:** Financial Resilience, COVID-19, Patient Capital, Financial Performance.

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# **CHAPTER ONE: INTRODUCTION**

## **1.1 Introduction**

The current global financial landscape is marked by dynamic shifts, such as the slowing of the globalization movement, the shocks of COVID-19 pandemic, then the Russia's invasion, etc. According to the Financial Times (2023), the World Uncertainty Index, that measures the use of the word "uncertain" in analysts' reports, has been increasing in the recent years especially since 2021. Due to uncertainty, which could have a negative effect on the growth rate on a corporate level and on the economy as a whole. Those uncertainties have an impact on investment strategies that investors adopt. One of the notable investment strategies in boosting the financial resilience, is the concept of "**patient capital**" which has been on the rise in recent years. Patient capital as a term is not exclusive to bank-based systems, however, it has been found across all financial markets according to Aspara et al (2014). As defined by Deeg and Hardie (2016), patient capital as equity or debt providers who aim to gain on long-term investments and who do not exit their investment or loan if corporation's managers do not cave under the pressure of short-term gains. In other words, patient capital safeguard corporations from the urge to react on any short-term fluctuations of the financial market, nor to focus on short-term financial gains at the expense of the long-term returns. Thus, this strategy is rewarding especially in volatile markets. Patient capital helps to focus on sustained growth and discourage immediate returns, which improve the company's innovation levels due to the lower pressure to increase profit and returns. The real estate sector is naturally aligned with the characteristics of patient due to its long-term investment nature. Real estate sector requires development for extended time, advance capital expenditures, and delayed returns, which is suitable for patient investors who prioritize stability.

Patient investors have interests in the real estate markets, therefore, it is imperative to evaluate the performance of this sector during periods of financial distress, such as COVID-19 pandemic in 2019 -2020. The pandemic has had a significant impact across all sectors, it presented a stress test for investment strategies, and exposed vulnerabilities which emphasized the importance of improving resilience levels. The examination of the financial performance of the real estate sector during the pandemic period, can help assess the effectiveness of patient capital in providing stability and improve their recovery. The analysis of the real estate performance during financial shocks will provide insights into refining investment strategies to address future challenges, besides the utility of patient capital.

In Saudi Arabia, the real estate sector plays a critical role for diversification purposes under Vision 2030. It is supported heavily by public and private investment, highlighting the country

investment approach i.e. patient capital strategy. Therefore, analyzing the performance of the real estate market in Saudi Arabia will help assess the sector's resilience level and how patient capital be utilize in navigating financial distress.

The focus on the Saudi real estate market will help to highlight the sector's vulnerabilities, especially that the country is aiming to diversify its portfolio away from oil dependence. Thus, examining the Saudi real estate market, during the pandemic while experiencing a fluctuating in oil prices that stressed the country's economy, is critical.

The significance of this study stem from analyzing the financial performance of the real estate companies in Saudi Arabia during a financial distress which provides investors and policy makers insights into the company's ability to withstand from financial shocks and their ability to recover. This study analyzes financial measurements, such as Return on Equity (ROE), to analyze if the companies were well equipped to weather the financial shock and recover. The findings of this study can provide guidance for policymakers, and corporate management, investors who are looking to improve the resiliency level.

## **1.2 Problem Statement**

The problem statement for this study is to examine the real estate market in Saudi Arabia and how it performed during financial shocks "COVID-19 pandemic", by investigating the financial performance and the company's ability to grow and generate profit during times of financial distress.

## **1.3 Research Objectives**

This study aims to assess the financial resilience for Saudi real estate companies and the company's ability to recover from financial shocks, especially while changing monetary policies.

## **1.4 Research Questions**

Below are the questions that the research paper would address to examine the financial performance of the real estate market during the pandemic

1. How did the pandemic affect the Saudi real estate market?
2. How did the pandemic affect the company's efficiency?
3. Does a higher leverage rate impact the financial resilience level of a company?

### **1.5 Significance of the Study**

In Saudi Arabia, as a developing country, it is significant to analyze the role of patient capital on financial resilience. On an academic level, the study provides an empirical examination of the Saudi Arabia's real estate market during the COVID-19 pandemic. In addition, this study investigates the impact of leverage rate on the company's resilience, long-term sustainability on recovery. On a historical level, the study documents the pandemic's impact on the Saudi real estate market, which helps future academics to analyze this period in more depth.

# **CHAPTER TWO: LITERATURE REVIEW**

## **2.1 Introduction**

The **COVID-19** has caused a crisis in the **real estate sector**, which is a very complex problem with a wealth of literature. In the sub-chapter below, it is only the literature of the Theories that explain the financial performance of companies and the coronavirus's effects on the real estate sector and market. This is followed by the formulation of the hypotheses based on the literature review's conceptual model.

## **2.2 Background**

The COVID-19 pandemic has been affecting the business world at a never-before-seen scale and speed. This includes disruptions to global supply networks, business closures, and halts in factory outputs. Nicola, et al, (2020) showed that concerns have been expressed by industry experts worldwide about the substantial risk that the unprecedented global Covid-19 outbreak poses to the real estate industry. The impact of COVID-19 has been rapid, with far-reaching effects that have emerged. The real estate industry and other economic activity have stagnated as a result of the stay-at-home policy. Numerous buyers, lenders, and real estate brokers has assessed the risks and challenges in their business operations. The impact and inherent hazards of stay-at-home rules on the built environment and real estate chain cause developers to halt their work. A financial crisis has resulted from returns on investments that weren't rewarding by the end of the fiscal year during the pandemic because of the detrimental effects of the epidemic. In a similar vein, there are concerns that the economic downturn may make income sources—like rental incomes and mortgage payments—that are already suffering in the near term worse at the end.

## **2.3 Theories on Financial Performance**

### **2.3.1 Resource Based View (RBV)**

A theoretical framework known as the Resource-Based View (RBV) emphasizes that a firm's internal resources and skills are what provide it a sustainable competitive edge. RBV states that businesses can use valuable, rare, inimitable, and non-substitutable (VRIN) resources to produce exceptional performance. These resources might be intangible (such organizational culture, managerial skills, and brand reputation) or concrete (like financial capital and real estate properties) (Madhani, 2010).

According to the RBV, instead of depending on outside variables like market conditions, consumer preferences, or competition activity, businesses should concentrate on building and utilizing their internal resources, such as capabilities, knowledge, skills, assets, and culture.

According to the RBV, resources are immobile, which means they are hard to transfer or copy, and heterogeneous, which means they differ between organizations. Thus, rare, valuable, unique, and non-substitutable (VRIN) resources can give a business a long-term competitive edge (Fahy, & Smithee,1999).

According to Newbert (2008) A theory that has been studied in academic literature to explain competitive advantage and, consequently, superior performance among enterprises is the resource-based view (RBV) of the firm. The connection between excellent performance, competitive advantage, and customer value is a fundamental principle of the RBV. Superior production processes, reduced cost structures, and a focus on customer service are just a few of the ways the company can add value for its clients. According to the RBV, a company can better ensure a persistent competitive advantage by implementing strategies that satisfy customer expectations when critical resources with specific attributes are in place. Intangible assets (such customer relationships and trust) and capabilities (like knowledge and skills) have been identified as key resources. Although the firm's perspective on advantage-creating resources has been thoroughly examined in the literature, customers' perceptions of the value of a firm's resources have received less attention, especially empirical research (Madhani,2010).

Though the theory emphasizes that not all of these resources have the capacity to give the business a sustainable competitive advantage, the RBV emphasizes that the firm is a unique combination of resources. The eight criteria of Amit and Shoemaker (1993)—complementarity, scarcity, low tradability, inimitability, limited substitutability, appropriability, durability, and overlap with strategic industry factors—as well as value, rareness, inimitability and non-substitutability, inimitability, durability, appropriability, substitutability, and competitive superiority were identified by early proponents of the RBV as characteristics of "advantage-creating" resources.

also Nemar, et al. (2022) showed that Businesses need to be highly competitive in order to survive ongoing expansion of the industrial sector, in other words business shall be able to withstand change and uncertainties. Businesses must be able to innovate in order to thrive in highly competitive markets and stay ahead of their rivals. Utilizing a Resource Based View (RBV) is one internal strategy that may be used to generate competitive advantage. In order to identify a company's strategic advantage, the Resource Based View (RBV) method looks at its internal resources as well as its assets, expertise, and intangible assets. The Resource Based View (RBV) method adds substantial value to a business by showcasing its resources and capabilities that are exclusive to it. An appropriate theoretical perspective for analyzing how

internal factors can become resources to generate competitive advantage and increase the company's strategic capacity is to apply the Resource Based View (RBV) theory, which focuses on the company's resources and capabilities. It is anticipated that establishing a framework for businesses using the Resource Based View (RBV) approach will give them the best foundation for high competitiveness, which stems from management and utilization of business resources and capacities. During the pandemic, companies that possessed these uncommon resources were better equipped to handle market disruptions. A real estate company that had exclusive, long-term ties with developers or tenants, for example, could have been able to negotiate better terms and withstand the financial effects of the crisis more successfully (Newbert, 2008). In addition, a Dynamic RBV places a strong emphasis on company's capabilities that companies build over time, in addition to their tangible assets. This includes risk management abilities, project management experience, and the capacity to adjust to shifting market conditions in the real estate industry. Businesses with significant dynamic capabilities—the capacity to reallocate resources and modify strategy in response to shifting circumstances—had an advantage in sustaining profitability during a crisis such as the COVID-19 epidemic. For instance, real estate companies were better equipped to reduce losses if they rapidly switched to digital platforms for property leasing, modified their business plans to accommodate new tenant demands (such as remote office arrangements).

### **2.3.2 Dynamic Capabilities Framework**

The ability of a company to adjust to fast changing circumstances is the main focus of the Dynamic Capabilities Framework (DCF), a theory in strategic management that was created by David Teece and associates in the 1990s. It highlights that in order for companies to adapt to external changes and challenges, they must not only have resources but also continuously integrate, reconfigure, and deploy these resources. When conducting research on the financial performance of real estate companies during the COVID-19 pandemic, the Dynamic Capabilities Framework offers a valuable perspective for examining how Saudi Arabian companies responded to the pandemic's exceptional market disruptions (Teece, 2014).

A strategic lens for evaluating the resilience and flexibility of real estate companies during the COVID-19 pandemic is the Dynamic Capabilities Framework. The financial performance of Saudi Arabian real estate companies throughout this historic crisis can be better understood by concentrating on a company's capacity to recognize, seize, and utilizing its resources and its operational framework. Businesses with the capacity to innovate, adjust to shifting market

conditions, and efficiently allocate resources had a better chance of preserving their financial stability and swiftly recovering from the pandemic's setbacks (Chih, et al., 2022).

Furthermore, it is necessary to comprehend the nature of the opportunities and challenges presented by the current financing issues in the real estate industry. This will offer a platform to lessen the impact of the difficulties, reduce the risks, investigate a comprehensive and sustainable strategic approach to real estate financing, and support economic growth. Additionally, having a solid grasp of the current issues will help investors, legislators, and other interested parties steer clear of traps and offer a platform for long-term real estate finance (Ogbenjuwa, et al., 2018). In real estate, reconfiguration can be seen in actions such as rethinking property management strategies, adapting lease terms, or embracing digital platforms for remote leasing and property management. The pandemic highlighted the importance of this ability, as firms had to reconsider tenant engagement models and shift operations to address the growing reliance on digital technologies for virtual tours, e-signatures, and remote leasing.

### **2.3.3 Capital Structure Theory**

The Capital Structure Theory investigates how businesses finance their operations and investments using a combination of debt and equity. It is essential to comprehend how companies handle risk and financial resources. For real estate firms, which usually need significant capital expenditures in advance to buy and develop properties, highlighting the capital structure's importance. Gaining insight into how a firm's capital structure impacts its performance, particularly in times of economic crisis or downturn, can help determine how resilient its finances are (Hovakimian, et al., 2004). The ability of businesses to maintain an ideal capital structure has a direct impact on their ability to withstand financial strains, adjust to changes, and recover from losses during emergencies like the COVID-19 pandemic (Margariti, & Psillaki, 2010).

One of the theories is, the trade-offs theory of capital structure, where businesses choose their ideal capital structure by weighing the advantages and disadvantages of debt. The advantages of debt include reduced costs of capital, leverage that can boost returns on equity, and tax shielding (because interest on debt is tax deductible). Nevertheless, the costs of debt include agency fees, financial distress expenses, and the possibility of bankruptcy. Leveraging funds to buy more properties might help real estate companies with high debt levels increase their potential returns. However, heavily leveraged companies may encounter major difficulties in times of financial distress, as their debt commitments can become unmanageable if real estate

prices or rental incomes decline. According to the Trade-Off Theory, real estate firms must strike a balance between using debt to finance expansion and keeping debt levels manageable in the face of economic downturns (Ghazouani, 2013).

Another capital structure theory is, the Pecking Order Theory which suggests that firms prioritize their sources of financing based on the principle of least resistance. According to this theory, firms first use internal funds (retained earnings), then debt, and only as a last resort, issue equity. The theory implies that firms with strong internal cash flows will prefer to rely on retained earnings to finance their operations, while firms with weaker financial positions may turn to debt or equity. For real estate companies, the pecking order is important in understanding how they respond to market shocks. Firms that are financially resilient, with a strong history of profitability and cash flow generation, may be able to weather the pandemic with limited external financing. In contrast, companies with limited internal resources may face difficulties accessing debt or equity markets during times of economic uncertainty (Mbugua, 2010).

Also, the market timing theory of capital structure, states that companies base their capital structure choices on the state of the market. Businesses are more inclined to issue equity or take on debt to finance investments when market conditions are favorable (such as high stock prices or low interest rates). On the other hand, businesses may postpone issuing equity or opt to rely on internal resources in less advantageous circumstances (such as a recession or pandemic). The situation of the market during the COVID-19 pandemic had a big impact on real estate companies' capacity to raise money. Businesses with more robust capital structures or those with access to capital markets prior to the crisis were better equipped to withstand and bounce back from the economic effects of the epidemic. On the other hand, businesses with limited credit or deteriorating, On the other hand, businesses who had to deal with tight credit conditions or falling real estate values had a harder time raising money (Huang, Ritter, 2005). Understanding the capital structure choices made by real estate companies is essential, especially in times of economic crises like the COVID-19 epidemic., the Market Timing Theory, Pecking Order Theory, and Trade-Off Theory all shed light on how real estate firms set up their financial structures to strike a balance between risk and reward. You can better understand how various capital structures affected the resilience and financial performance of Saudi Arabian real estate enterprises throughout the epidemic by including these theories (Uchehara, et al., 2020).

### **2.3.4 Financial Resilience**

There are a numerous meanings and definitions of the financial resilience concept in academia as a management strategy. According to xx, financial resilience means that a company should become adaptive in their operating framework to survive and to remain fit. In other words, financial resilience is the company's ability to adjust to market changes and uncertainties without decrease in their growth rate or profit. This theory was put to the test during the COVID-19 pandemic period and highlighted the vulnerabilities of sectors that were heavily impacted by the financial distress and which sector or companies were resilient to withstand those shocks. (Allen, et al., 2009)

The financial resilience theory uses a number of metrics to asses the company's resiliency level including, liquidity rate and the compay's ability to maintain it operational cash flow.

Businesses that have easy access to funding or keep sizable financial reserves typically handle crises well. Real estate companies who had effective liquidity management plans were better able to withstand lower rental incomes and postponed property sales during the COVID-19 epidemic. This is also in line with Amihud et al (2015), who studied the liquidity issues faced by real estate companies in Kenya and established a correlation between liquidity risk and Kenyan enterprises' productivity. As a result, that case study included a correlation research methodology, using data gathered from annual financial reports obtained from a sample of 14 real estate companies under analysis between 2008 and 2012. The results of the study showed that an increase in the liquidity gap and control had a negative impact on performance. Furthermore, the study showed that all facets of liquidity risk had a significant impact on the performance of real estate companies.

Another metric is the company's portfolio and how divers its assets, which is essential to measure the company's resiliency level.

Businesses in the real estate industry that have varied portfolios that include investments in the commercial, industrial, and residential sectors are less susceptible to downturns in any one of these areas. For example, the logistical and residential sectors had more stability during the pandemic, but office and retail assets saw a decline in demand. The overall performance of companies with diversified assets was less severely affected. Geographical diversification also applies to businesses, as those with assets in several cities or nations may be more resilient to regional economic shocks (Yousef, 2019).

Moreover, financial resilience can be measured by how effective their debt management and their capital structure. In other words, The ability of a company to manage its capital structure, particularly its leverage ratio (the ratio of debt to equity), is another factor that determines its

financial resilience. Leverage increases risks in times of crisis but can also increase returns in good circumstances. If the company's cash flows are disturbed by high debt levels, companies may find it difficult to pay back, which could result in cash and financial restraint. Businesses with balanced debt structures—a combination of debt and equity that can be controlled in a range of market conditions—have a higher chance of surviving crises, according to the Financial Resilience Theory. Financial stress is generally lower for real estate companies with low to moderate leverage, especially during volatile market situations (Nyaguthii, 2021). Saliha and Abdessatar (2011) investigated the factors that influence financial performance, paying special attention to the relationship between debt type and performance and control. Between 1998 and 2006, 40 listed Tunisian companies were the subject of a research. The study's performance, debt, and control form results indicate a significant correlation between them. This association is particularly noticeable in public companies because of their un-concentrated ownership structure, ease of raising money through debt and/or equity, and faster growth and profitability compared to unlisted enterprises.

The Financial Resilience Theory also highlights how internal operational tactics (capital structure, management practices) and external market elements (economic, political, and social) interact to influence a real estate entity's capacity to handle financial difficulties (Ricci & Fischer, 2024).

The COVID-19 pandemic has presented a number of challenges for corporate financial management and had a major negative impact worldwide. Stronger and more flexible businesses performed better financially, highlighting the significance of resilience in corporate finance. As a safeguard against adverse internal and external shocks, financial reserves—including cash holdings—played a significant role in financial resilience (Chang, et al, 2020). Another element of stability was adaptable funding and investments, which allowed for a speedier reaction to a fast-shifting environment. Additionally, the adoption of sustainable development concepts and the quickening speed of digitalization helped businesses navigate the crisis period more skillfully. All things considered, the company's long-term performance depends on increased corporate financial resiliency. Examining key performance indicators (KPIs) including capitalization rates, occupancy levels, rent collection rates, and property value variations is another way to gauge resilience in the real estate industry.

The COVID-19 pandemic, for example, demonstrated that real estate companies with diversified property portfolios and low leverage were better able to withstand shocks than those that were overly dependent on a single industry or region. Furthermore, companies that had used strong crisis management strategies—such as remote work and digital transformation—

showed increased resilience in preserving business continuity. Real estate analysts and investors can assess a market's or investment portfolio's resilience to unanticipated shocks by examining financial resilience using these characteristics, which can improve long-term planning and decision-making.

### **2.3.5 Patient Capital**

Hue, et al. (2019) showed that Investment funds or resources that are dedicated to a long-term horizon and less susceptible to short-term market swings are referred to as patient capital. This idea is especially pertinent to real estate investments, which frequently need large initial outlays and protracted recovery times, particularly during recessionary times. Speculative investing strategies that put an emphasis on liquidity and rapid returns contrast with patient capital. The use of long-term investment techniques is a fundamental component of financial resilience in the real estate industry (Patient Capital). The theory supports the idea of patient capital, which holds that investors should be more concerned with long-term commitments than with short-term swings. By using patient capital, real estate companies may weather market downturns and bounce back as conditions improve since they are not compelled to sell under duress. This tactic helps reduce risks, especially in times of crisis, because it permits activities and assets to be maintained without being forced to sell at distressed prices (Tierney, 2017). Patient capital gives real estate investors the adaptability they need to withstand economic downturns and market volatility. Rental income and property values may drop during these times, and market liquidity may become scarcer. However, because they are not under pressure to sell assets below market value or liquidate assets fast to satisfy short-term liquidity needs, investors who deploy patient money are usually more resilient in the face of these difficulties.

Real estate markets can undergo severe slowdowns during economic downturns, like the global financial crisis in 2008 or the COVID-19 pandemic. Property values may fluctuate, rental revenue may drop, and certain projects may be postponed or placed on hold. In these situations, patient money becomes an essential tool for real estate investors, allowing them to keep their properties and pursue long-term investment plans without giving in to the short-term pressures that frequently lead to more impulsive choices (Elyassi, 2021). For example, during downturns, real estate projects that need a lot of work or have long-term lease agreements may be at risk. When the market recovers, investors who have access to patient capital are better able to manage cash flow, hold onto their investments, and seize chances.

Nonetheless, prior research has discovered that many Asian economies' cultures exhibit long-term orientation (LTO) (Hofstede, 1991). In this exploratory study, we propose that the LTO may be regarded as a unique endowment that, in specific situations, may grow into a patient capital comparative advantage (CA). These nations would have a "revealed" competitive advantage in infrastructure financing if they could transform their latent CA into a revealed CA in patient capital and learn how to meaningfully "package" profitable and non-profitable projects. One of the most important institutional elements for successful international collaboration is the capacity to "package" public infrastructure with private services.

As Traverso (2014) showed that, the goal of using patient capital, as opposed to the typical investment model, is to boost a project's equity to handle the higher cost of developing in an urban walkable setting as opposed to a suburban one. It also offers a longer time frame that may enable that neighborhood to experience the social and economic advantages of walkability. The analysis will demonstrate that when policies are combined into a toolkit, it is possible to raise enough patient capital for real estate development, where value is created through a longer holding period. However, this capital can be used for any kind of development, which does not encourage walkability and indicates that specific policies must be created to guarantee that funds are used for more and better walkable neighborhoods.

During economic downturns, patient capital is a crucial real estate strategy that provides protection from short-term market volatility. In a sector that is frequently susceptible to economic shocks, stability and the capacity to think long-term enable investors to navigate through crises, retain wealth, and finally profit from the recovery period.

### **2.3.6 Leverage and Profitability**

Leverage is the process of financing the development or purchase of real estate assets using borrowed funds (debt) in order to increase returns on equity. Leverage has a big influence on real estate profitability, particularly during times of economic instability or crisis. Assessing a real estate company's resilience and long-term viability requires an understanding of how leverage impacts its capacity to withstand financial strain (Brown & Riddiough, 2003).

Baum (2009) indicated that In real estate investing, leverage is a popular strategy since it enables businesses to purchase more assets than they could with just their own funds, potentially boosting returns in advantageous markets. A common metric for assessing leverage in real estate companies is the debt-to-equity ratio; higher ratios signify a greater reliance on debt funding. Leverage increases the profitability of real estate companies when property

values increase or rental revenue remains steady since the returns from the property greatly outweigh the cost of borrowing (interest rates on debt).

Leverage, however, can become a double-edged sword during market or economic downturns. It can increase profits when there is growth, but it can also increase losses when real estate values or other sources of revenue fall. For example, lockdowns and decreased economic activity during the COVID-19 epidemic caused a sharp decline in occupancy rates, rental income, and property values in several real estate markets. Highly leveraged companies find it difficult to stay profitable in these situations because the fixed costs of debt servicing—interest and principal repayments—remain high even when revenues fall.

particularly noticeable when businesses are unable to produce adequate cash flow to pay off debt, which may result in forced asset sales at distressed prices or even defaults. For instance, a highly leveraged real estate company can experience financial difficulties if rental income falls as a result of a decline in the demand for retail or office space, as is typical during recessions like the one brought on by the epidemic. In these situations, businesses might have to restructure their debt or even sell off assets to pay their debts, which could result in large losses.

Also Fatimah, et al. (2019) indicated that their study looks into how financial ratios might be used to predict financial trouble, which is crucial for avoiding bankruptcy. The purpose of this study is to determine how financial hardship is impacted by liquidity, leverage, and profitability measures (on property and real estate companies listed 2015-2017 on Indonesia Stock Exchange). 135 units of analysis were used to look at 45 firms that were listed on the Indonesia Stock Exchange between 2015 and 2017. The logistic regression methodology with purposive sampling was the prediction model that was employed. As a result, liquidity (current ratio) has no bearing on financial distress. Leverage, or the ratio of total debt to total assets, has a favorable impact on financial crisis. Nonetheless, financial distress was negatively impacted by profitability (net profit margin). another study aligned with these results is, Dwiantari & Artini (2021) study, the purpose of their study is to gather empirical data on how liquidity, leverage, and profitability affect financial distress in real estate and property companies that are listed on the Indonesia Stock Exchange (IDX) between 2017 and 2019. Purposive sampling was the method employed in their study, and the criteria were firms that were listed on the Indonesia Stock Exchange sequentially between 2017 and 2019. analyzed 53 businesses that fit the requirements to be included in the study's sample. They have employed logistic regression analysis as its analysis method. According to the study's findings, financial distress

is significantly impacted negatively by liquidity, positively by leverage, and negatively by profitability.

Also Van Thi Hong Pham (2022) showed in their study which looks at how Vietnam's real estate companies' profitability has been impacted by the COVID-19 pandemic. Data from 60 Vietnamese real estate companies was gathered by the researchers between the last quarter of 2018 and the third quarter of 2021. This time frame includes the significant events leading up to and during the Covid-19 pandemic. By using the statistical comparison approach and regression analysis to examine the profitability determinants of real estate businesses during two time periods—prior to and after the Covid-19 pandemic—this study sets itself apart from previously published studies. The positive effects of asset turnover and credit growth rate on real estate companies' profitability have been offset by the COVID-19 era, according to the findings. The results showed that the positive effects of asset turnover and credit growth rate on real estate companies' profitability have been offset by the COVID-19 era, according to the findings. The positive effects of asset expansion and turnover on profitability in the pre-Covid era have turned negative during the COVID-19 period. Our research has revealed the problem facing the real estate sector, where a large number of businesses must sell at a loss in order to satisfy their debts. The paper makes recommendations for ways to help these businesses get past challenges and adjust to life along COVID-19. The research also recommends that in order to expedite real estate transactions, the government streamline legal processes and provide some online ones.

In conclusion, leverage increases both possible returns and dangers, making it a crucial factor in deciding profitability in real estate companies. Leverage can increase profitability when the market is doing well, but it can also make losses worse during times of crisis, particularly for companies with huge debt loads and little cash on hand. In times of economic uncertainty, it becomes imperative to manage leverage effectively through portfolio diversification, careful debt structuring, and liquidity management in order to maintain financial stability and profitability. Because they are less likely to be driven into distress sales or bankruptcy as market circumstances worsen, companies that rely on patient capital and conservative leverage tactics may be better equipped to weather downturns.

### **2.3.7 COVID-19 Impact on Real Estate Performance**

The negative effects of the Covid-19 pandemic on the performance of real estate companies in various Arab and foreign societies have varied. Below, the researcher refers to the results of

several studies that aimed to measure the impact of the Corona pandemic on the investments and profitability of companies, especially real estate companies.

Acciarini, Boccardelli & Vitals' (2021) study came to talk about and consider how certain businesses might improve their organizational resilience in the face of unforeseen circumstances. Design, methodology, and approach: The authors interviewed the target CEOs of four significant Italian companies in various industries using a semi-structured interviewing technique. The writers specifically concentrated on investment banking, mobile telecommunications, media and communications, and multiutilities. The interview questions focused on the consequences of COVID-19 and how to respond strategically in order to manage this complicated situation. Results: The writers provided both short-term and long-term strategies that each Italian company had designed and executed based on the CEOs' input. The writers specifically highlighted the parallels and differences with regard to future business development and strategic actions. Originality/value: They learned more about organizational resilience thanks to the examination of real-world examples. This is within the framework of The Covid-19 epidemic is a unique and unforeseen phenomenon that has an impact on society and the economy as a whole.

Also, Golubeva (2021) studied to investigate how firm-, finance-, and nation-specific factors affect businesses' performance during the COVID-19 pandemic. Design, methodology, and approach: A regression performance model for businesses during the COVID-19 pandemic is used in this study. The World Bank's enterprise surveys of 5,730 businesses from 13 countries served as the basis for the inquiry. The author tested relatively new factors in addition to analyzing conventional performance metrics. The study's conclusions support the importance of a number of variables for business performance, including size, industry, exporting activity, and consumer demand for a company's goods. During the coronavirus pandemic, equity donations, company cash balances, and debt are the most reliable financing options. However, government support has not yet been verified as a substantial source of funding. The significance of nation-specific elements for business performance, such as the infrastructure of corporate governance and the degree of economic development, is also suggested by this study. Implications for practice: The findings of the study may help corporations, legislators, and regulatory agencies develop corporate and public governance plans for future emergency preparedness and response.

In addition, Atayah, et al. (2022) showed in their study that aimed to contribute to the body of existing knowledge on logistics by examining the relationship between listed logistics firms' financial performance and COVID-19 and contrasting the financial performance of G-20

logistics companies during the pandemic. Data on all logistics companies from the G-20 countries has been gathered from Bloomberg in order to do the confirmatory analysis by evaluating the assumptions developed for this study. The first quarter of 2010 through the final quarter of 2020 served as the research sample for this study, which looked at how the pandemic affected financial performance. Findings: According to the data, logistic firms' financial performance significantly improved in 2020. Overall, the country-specific findings supported the basic findings, and throughout the pandemic, the financial performance of 14 of the 20 countries' logistic companies under analysis significantly improved. However, this study discovered that the logistics companies in six countries—Germany, Korea, Russia, Mexico, Saudi Arabia, and the UK—performed poorly financially during the COVID-19 pandemic, which lends credence to the second claim. Limitations and implications of the research The study's findings were significant because they demonstrated how logistics firms may provide insights to stakeholders, researchers, practitioners, and policymakers.

Also, Xiong, Wu, Hou & Zhang (2021) studied response of the market to the new COVID-19 epidemic. Using a sample of Chinese listed companies, we discover that companies in virus-vulnerable industries and those with significant institutional investors experience a more dramatic market response to the COVID-19 epidemic. Additionally, businesses that are bigger, have greater potential for development and profitability, have more combined leverage, and have less fixed assets are less negatively impacted by the COVID-19 pandemic than other businesses.

Systemic financial risk is frequently impacted by the occurrence of worldwide public safety disasters. Huang, Lan, Xu, Zhang & Zeng (2022) offer a detailed examination of COVID-19's effects on China's financial systemic risks using the event analysis method. The study also illustrates the various aspects of systemic financial risk in real estate and several financial sectors (banking, securities, and insurance) during the COVID-19 pandemic. First, the impact of COVID-19 on systemic financial risk is particularly notable in branch sectors under real estate, and it shows both a level effect and a trend effect across all sectors. Second, compared to the banking and insurance sectors, the securities and real estate sectors are more persistent and contribute more to the expansion of systemic risk throughout the financial system. Third, compared to other industries, the real estate, residential property, and park comprehensive sectors—which are characterized by high debt, lengthy cycles, and a high degree of financial dependence—are less impacted by COVID-19 on systemic financial hazards. Fourth, COVID-19 affects market liquidity, funding liquidity, and default risk in the financial and real estate sectors of the transmission mechanism; however, the sources of systemic risk vary by sector.

Also Nuredini (2020) indicated in his study to examine the consequences and impact of the COVID-19 pandemic on the global real estate market. By presenting data from the pattern of real estate cycles in various nations throughout the world, After several years of expansion in every real estate market segment, 2020 was expected to confirm this trend, according to all estimates. However, a new kind of coronavirus started to spread from China to other countries in late December 2019. The pandemic struck most of the European nations in February and March 2020, forcing them to place restrictions on their economies and residents' freedom of travel. The residential real estate sector has been impacted along with the economy. Without a question, the epidemic has had a significant effect on global financial markets and the economy. Ramani & Bloom (2021) said that, Since the beginning of the pandemic, rents have decreased by more than 10% in core business districts and high-density neighborhoods of the biggest cities in America. Working from home has led to a sharp decline in commercial office occupancy rates and a decline in commercial property prices in congested zip codes; however, there has not yet been a significant shift from more expensive to less expensive cities, despite the fact that housing demand within cities is moving from dense urban centers to more spacious suburbs. Richer, more skilled residents leaving high-value houses is probably the main cause of declining property values in cities. City budgets will be strained and property taxes will decline as a result.

By evaluating and gaining information from administrative and media records, this study looked at the potential consequences and effects of the COVID-19 pandemic on real estate development and management procedures. Pandemics and crises were characterized as unanticipated events that had a detrimental impact on the development of real estate projects, the sales of existing real estate, cost estimates, values, and rates of return of the current real estate sector overall. The tourism industry is impacted and its revenue is reduced by the implementation of new policies and precautions, particularly travel bans and restrictions on both domestic and foreign tourists; the volume of real estate transactions, including those involving retail establishments, offices, and residences, is reduced; the number of hotels that are vacant has increased; the additional measures implemented as a result of the pandemic result in a significant increase in operating costs; the decrease in rent collection generates losses due to a decline in demand; and net operating income and investment value also tend to decline. A reassessment of planning, project development, marketing tactics, and settlement use and management procedures is required due to changes in company orientations, working circumstances, and living arrangements. This research has It has been noted that the Turkish government only intends to boost sales of already-existing homes and businesses as well as

tourism-focused initiatives (like a hygiene certificate) in order to revitalize the country's real estate markets. However, it is evident that the long-term, drastic changes that have been implemented are still insufficient (Tanrıvermiş,2020).

According to a study that used a GJR-GARCHX model, the stocks of real estate companies were only little impacted by the pandemic outbreak. Only in the US did the first pandemic wave result in a drop in market returns. In turn, during the second and third waves, this was the situation in Jordan and Poland. Furthermore, the Polish financial market has seen a surge in stock return volatility since the pandemic's onset. But this effect mostly occurs during the initial wave of illness (Tomal,2021). Another study on US market, Damani et al. (2024), had studied the role of equity and mortgage real estate investment trusts (REITs) and diversification level, the study has used data from 2000 to 2021. The findings showed a significant decline in REIT performance during COVID-19 pandemic by a number of indicators such as ROA, cash from operation, dividends, however the systematic risk was noted that it was less impacted. The study highlighted that diversification has helped performance and reduced risk. Gomez-Gonzales et al. (2024), has explored the financial uncertainty impact of US financial uncertainty on global housing market by using multi-country FAVAR (Factor Augmented Vector Autoregression) model. The results of the study showed that countries showed different effects, which highlights the impact of financial uncertainty on international level, noting that the study did not include Saudi Arabia in its sample. furthermore, Deraman et al. (2021) has studied the impact of the pandemic on hotels' survival strategies in Malaysia, and showed that there were three prominent approached were adopted cost-cutting measures such as unpaid leave, salary reductions, layoffs, and minimizing operational expenses, and flexible pricing strategies including tailored packages like work form hotel offers; and repurposing as quarantine hotels to generate revenue by serving as isolation centers. Those strategies has showed an effective approach to sustain operation during of financial distress.

Consumption is drastically declining as a result of the COVID-19 (also known as "SARS-CoV-2) pandemic, which is simultaneously lowering prices and workers' per capita income. An increase in unemployment will be added to this, further reducing consumer spending. In the short and medium term, the real estate market, like other commercial and productive sectors, will not likely operate independently from the framework of the previously listed economic determinants. The impact of health crises or pandemics on housing markets has not been thoroughly examined in international literature. For this reason, the few particular research that were discovered are first discussed, and studies on how natural catastrophes and acts of

terrorism affect real estate prices are also looked at (Del Giudice, De Paola & Del Giudice, 2020).

In addition, Kusumanwardani et al. (2021) has reviewed 25 peer-reviewed articles on corporate financial performance. The study highlighted the importance of financial performance as a health indicator for governmental policies to stabilize the market and for management to adopt more stabilized strategies. Though the study covers the GCC region, including Saudi Arabia, by analyzing the petrochemical industry and Islamic banks, it does not cover the real estate industry. Alajlani et al. (2024) has analyzed more than 100 papers on COVID-19, their analysis showed that there is a diverse impact on various management areas across sectors on navigating the pandemic, without studying a sector in specific or country.

In conclusion, the analysis verified that these companies' profitability has been adversely affected by the Corona pandemic (COVID-19). To lessen the effects of the COVID-19 shock and guarantee a stable and long-lasting recovery after the epidemic is under control, monetary, fiscal, and financial sector policies should cooperate. Supporting vulnerable nations, regaining market trust, and reducing threats to financial stability will all require ongoing international cooperation. The Fund is prepared to use all of its resources to safeguard the most vulnerable economies in the world before advancing the long-term recovery, which led the way of creating the hypotheses formulated based on the literature review:

*H<sub>1</sub>: The COVID-19 pandemic has a negative effect on the Saudi Arabia real estate market*

*H<sub>2</sub>: The COVID-19 pandemic significantly decreased the operational efficiency of companies due to disruptions in supply chains and workforce availability.*

*H<sub>3</sub>: Higher leverage rate negatively impacts the financial resilience level of a company*

# **CHAPTER THREE: METHODOLOGY**

### **3.1 Introduction**

In this chapter, the adopted methodology of the study will be presented including the research design, data source and collection methods, population and sample size and method of data analysis that is used in the study, following this outline:

- 3.1 Research design
- 3.2 Sample size and sampling procedure
- 3.3 Data source and collection procedure
- 3.4 Model Estimation
- 3.5 Descriptive statistics
- 3.6 Correlation Analysis

### **3.2 Research design**

The purpose of this study is to examine the impact of COVID-19 on the financial performance of the real estate market in Saudi Arabia for the period of 2019 to 2023. The research design and structure of this study to help reach an understanding to the research questions, is adopting a quantitative research design. The aim of this method is to examine the financial performance and resilience of the Saudi real estate market during the COVID-19 pandemic through the use of primary and secondary data. This study uses financial ratios, COVID-19 related variables, and macroeconomic variable (Repo Rate) to examine and assess the company performance, and to provide insights on the resilience factors that helped the companies weather the financial shock, with a focus on return on equity (ROE) as the primary measure of financial performance; and employing a regression analysis to identify the relationship between these variables. Noting that return on assets was dismissed due to the focus of this study, which to investigate the company's ability to generate profit to shareholders and grow its equity during financial shocks. In addition, choosing ROE would align with the research paper objective to examine the efficiency of debt management and liquidity optimization, and its affect to shareholders.

### **3.3 Sample size and sampling**

The data that is employed in this study quantitative method by using panel data that observe companies' performance during the pandemic from 2019 to 2023. related to the financial performance of real estate companies and Real Estate Investment Trusts (REITs). The purpose of the collected data is to analyze financial trends across companies during the pandemic and post-pandemic. The data has been collected from secondary and primary sources, such as financial statements, annual reports from the companies published documents on their official

websites and the Saudi Exchange Market (Tadawul). The size of the study's sample is 24 publicly list companies in real estate which were selected upon on data's availability.

### **3.4 Variables**

The study examines the financial performance and resilience of publicly listed real estate companies and REITs in Saudi Arabia during financial shocks and their recovery. For this reason, key variables has been selected, where each one of them represents a critical aspect of financial health, company characteristics, or broader economic conditions. One of these variables is Return on Equity (ROE), which aims to assess profitability, for analyzing leverage rate, the Debt to Equity was selected, and to examine liquidity the Current Ratio should suffice. To provide context beyond internal financial metrics, external factors such as the average repo rate and pandemic-related indicators, including COVID-19 case counts and a pandemic dummy, were included. These variables provide a broader analysis and its impact on the sector. Each variable was chosen with a specific purpose, and its definition, unit of measurement, and relevance to the research are outlined in the table that follows. By combining firm-specific and macroeconomic data, the study aims to offer a well-rounded analysis of how companies navigated unprecedented challenges.

Table 1: List of variables and their definitions

Variable	Unit of Measurement	Definition	Rational
<b>Dependent variable</b>			
<b>Return on Equity (ROE)</b>	percentage	Measures the return earned by a company on its equity capital, including minority, preferred equity, and common equity. (Thomas et al., 2015)	To examine the company's ability to generate profit from its equity during financial shocks.
<b>Independent variables</b>			
<b>Debt to Equity</b>	Ratio	measures the amount of debt capital relative to equity capital (Thomas et al., 2015)	To examine how a company's reliance on debt could affect its ability to remain financially resilient during financial shocks.
<b>Current Ratio</b>	Ratio	This ratio expresses current assets in relation to current liabilities. (Thomas et al., 2015)	To provide a holistic view on how well companies can manage their immediate financial obligations during financial shocks, since liquidity is vital during crisis.
<b>Cash from Operation (CFO)</b>	SAR in millions or billions	The amount of cash that is generated solely from company activity, excluding financing and investment activities. (Thomas et al., 2015)	To assess the company's ability to generate cash from its core activities and help understand the company's ability to generate cash in general.
<b>Company Size (Total Assets)</b>	SAR in millions or billions	The amount of total assets equals total liability plus shareholders' equity (Thomas et al., 2015)	To help understand if company's size may affect the financial performance or not, due to market power, resources, and risk diversification.
<b>Independent Variables</b>			
<b>Ave. Repo Rate</b>	percentage	This represents the interest rate which central bank lends money to commercial banks	To analyze the macroeconomic conditions that affect the cost of borrowing and investment behavior
<b>COVID-19 Cases</b>	Count	The total number of COVID-19 cases during a specific time period that were confirmed.	To help understand the direct impact on the company's performance.
<b>Pandemic Dummy</b>	Binary value (0 or 1)	This variable is a binary variable that is used to distinguish between pandemic period and non-pandemic periods.	To help categorize the data to two groups one during the pandemic, and the other post-pandemic period.
<b>Debt-Repo</b>	NA	NA	To investigate the relationship between company's debt to equity and the average repo rate to understand how Repo rate changes impact leverage levers.

Source: Author's own.

### **3.5 Model Estimation**

The estimation of the model in this study is based on examining the relationship between various financial and macroeconomic variables to assess the performance and resilience of publicly listed real estate companies and REITs in Saudi Arabia, especially in response to the COVID-19 pandemic. The goal is to identify key determinants that influenced the financial performance of these companies during the financial shocks. For this reason, a regression-based approach with robust standard error is employed, to analyze of the selected variables and their impact on the dependent variable, Return on Equity (ROE).

### **3.6 Regression Model**

The model used for this analysis is based on the following general form:

$$ROE_{it} = \alpha + \beta_1 Debt\ to\ equity + \beta_2 Company\ Size + \beta_3 Current\ Ratio + \beta_4 Cash\ from\ Operation + \beta_5 Ave.\ Repo\ Rate + \beta_6 Debt - Repo + \beta_7 COVID - 19\ Cases + \beta_8 Pandemic\ Dummy + \epsilon_{it} \quad (1)$$

The model includes both firm-level and macroeconomic variables, allowing for a comprehensive analysis of factors that contribute to a firm's financial resilience. The rationale behind using this specific model is that it incorporates a combination of internal factors and external macroeconomic factors that are likely to have influenced the financial performance of real estate companies during and after the pandemic.

To estimate the regression model, we will use a panel data approach, and the fixed-effects model was employed to control for unobserved heterogeneity at the firm level (i.e., characteristics that do not change over time but affect the firm's financial performance).

# **CHAPTER FOUR: FINDINGS AND RESULTS**

## **4.1 Introduction**

This chapter presents the findings and results of the study, focusing on the financial performance and resilience of publicly listed real estate companies and REITs during the COVID-19 pandemic. It begins with descriptive statistics to summarize the key variables and highlight differences between the two groups. Next, the chapter reviews the correlation analysis and multicollinearity diagnostics, including Variance Inflation Factors (VIF), to assess the relationships between variables and the reliability of the models. The main focus is on the regression results, exploring how financial indicators and external factors influenced return on equity (ROE)

## **4.2 Descriptive Statistics**

This section presents an overview of the main variables in the study, focusing on their averages, variation, and distribution. It also compares the financial performance of real estate companies and REITs during the COVID-19 pandemic.

## **4.3 Overview**

The descriptive statistics that are presented in Table 2 provide insights into the variability, central tendencies, and overall distribution of the variables used in the analysis. Which represent key financial and economic metrics relevant to the study of firms' financial resilience during the pandemic.

The dependent variable, return on equity (ROE), exhibits a mean of 0.0078, suggesting that on average, firms in the sample were barely breaking even during the study period. This low average reflects the challenging economic conditions, particularly during the pandemic, when many firms struggled to generate positive returns for shareholders. The standard deviation of 0.2256 indicates substantial variability in ROE across firms and over time. Some firms experienced significant losses, as evidenced by the minimum value of -2.1112, while others managed moderate profitability, with a maximum ROE of 0.3399. This wide range highlights the differential impact of economic disruptions on firm performance, emphasizing the need for a deeper exploration of the factors influencing these outcomes. The debt-to-equity ratio provides insight into firms' capital structures. With a mean of 0.0 due to standardization, the variable represents normalized data, allowing for comparisons across entities with varying capital structures. The standard deviation of 1.0042 shows a moderate spread in leverage levels, while the minimum and maximum values, ranging from -0.8081 to 5.672, reveal significant variability in firms' reliance on debt. Some firms appear highly leveraged, while others

maintain lower or even negative debt levels, possibly reflecting data adjustments or unique firm circumstances. Such variability suggests that leverage may play a critical role in explaining firms' resilience during economic disruptions, as higher debt levels could exacerbate financial vulnerability during periods of reduced revenue.

*Table 2 Overview Descriptive Statistics*

<b>Variables</b>	<b>Mean</b>	<b>Std.Dev</b>	<b>Min</b>	<b>Max</b>
ROE	0.0078	0.2256	-2.1112	0.3399
Debt to equity	0.0	1.0042	-0.8081	5.672
Firm Size	0.0	1.0042	-0.516	5.0446
Current Ratio	0.0	1.0042	-6.9849	10.4898
Cash from Operation	0.0	1.0042	-4.8406	3.8133
Ave. Repo Rate	0.0	1.0042	-0.9052	1.815
COVID-Cases	0.0	1.0042	-1.9177	0.8377
Pandemic Dummy	0.4	0.492	0.0	1
Debt-Repo	0.0274	0.0498	0.0	0.3695

**Source:** Author's own.

Firm size, another key variable, is also normalized, with a mean of 0.0 and a standard deviation of 1.0042. The minimum and maximum values, spanning from -0.516 to 5.0446, indicate that most firms are relatively similar in size, with a few outliers skewing the upper range. The presence of larger firms in the dataset may reflect more established entities with greater resources to navigate economic shocks. However, the distribution of firm size also underscores the heterogeneity of the sample, which could influence the dynamics of financial resilience and profitability. The current ratio, a measure of liquidity, presents a mean of 0.0 and a standard deviation of 1.0042, consistent with the normalization of variables. The range of values, from -6.9849 to 10.4898, is particularly notable, as it indicates extreme variability in liquidity positions among firms. Some entities may face severe liquidity challenges, evidenced by the negative values, while others maintain strong liquidity buffers with significantly high ratios. Such disparities are critical to understanding firms' ability to meet short-term obligations during economic uncertainty, as higher liquidity typically confers greater flexibility in managing cash flow disruptions.

The cash from operations variable highlights firms' ability to generate cash through core business activities. With a mean of 0.0 and a standard deviation of 1.0042, the normalized data

again allows for consistent comparisons. The minimum value of -4.8406 and the maximum value of 3.8133 reflect notable variability, suggesting that while some firms struggled to generate positive operating cash flow, others managed to do so effectively. This variability likely stems from differences in industry sectors, operational efficiency, and pandemic-related disruptions. Firms with negative cash flow from operations may have relied more heavily on external financing to sustain operations, increasing their financial vulnerability. The average repo rate, representing macroeconomic conditions, has a mean of 0.0 and a standard deviation of 1.0042, reflecting normalized data. The range, from -0.9052 to 1.815, indicates moderate variability in interest rates during the study period. Repo rates are crucial for understanding the broader economic environment, as they influence borrowing costs and liquidity. The relatively narrow range suggests that while monetary policy fluctuated, it remained within manageable bounds, providing some stability for firms operating in the region.

The impact of the COVID-19 pandemic is captured through two variables: COVID-19 cases and the pandemic dummy. The COVID-19 cases variable, with a mean of 0.0 and a standard deviation of 1.0042, represents normalized data that reflects the intensity of the pandemic's spread. The range of values, from -1.9177 to 0.8377, likely reflects scaled differences in the severity of the pandemic across time or regions. Meanwhile, the pandemic dummy variable, with a mean of 0.4 and a standard deviation of 0.492, indicates that 40% of the observations correspond to the pandemic period. The binary nature of this variable, with values of 0 (non-pandemic) and 1 (pandemic), provides a straightforward way to analyze the differential impact of the pandemic on firms' performance. The close-to-even distribution between pandemic and non-pandemic observations ensures sufficient representation for both periods in the analysis.

Finally, the interaction term between debt-to-equity and repo rate, labeled as "Debt-Repo," has a mean of 0.0274 and a standard deviation of 0.0498. This low average suggests a generally weak interaction effect across the sample. However, the range of values, from 0.0 to 0.3695, indicates that some firms experienced stronger combined effects of leverage and interest rates. This interaction term is particularly relevant for understanding the compound impact of financial structure and macroeconomic conditions on firms' performance during economic disruptions.

The results reveal significant variability across all variables, highlighting the diverse financial and operational profiles of the firms in the sample. The wide ranges for variables like ROE, debt-to-equity, current ratio, and cash from operations underscore the heterogeneous impact of the pandemic on firms' financial performance. Such variability is critical for examining resilience, as it allows the analysis to capture a broad spectrum of firm behaviors and outcomes.

The normalized nature of most variables ensures consistency in the dataset, facilitating comparisons across entities and time periods. However, the presence of extreme values, particularly for the current ratio and cash from operations, suggests the need for robustness checks to mitigate the influence of outliers. These outliers may represent firms in unique circumstances or those disproportionately affected by the pandemic.

The inclusion of macroeconomic variables, such as average repo rates and COVID-19 cases, provides a valuable context for understanding external factors influencing firm performance. The pandemic dummy, with its near-even split between pandemic and non-pandemic observations, ensures that the analysis can effectively isolate the pandemic's impact.

Overall, the descriptive statistics offer a comprehensive overview of the dataset, highlighting the key trends and variations that underpin the study's findings. These insights set the stage for more detailed econometric analysis, which can uncover the specific relationships between the variables and firms' financial resilience during the pandemic. The observed variability and the interplay between financial metrics, macroeconomic conditions, and the pandemic period underscore the complexity of the research question and the importance of robust statistical modeling to derive meaningful conclusions.

#### **4.4 Real Estate Companies vs. REITs**

A sample of real estate companies and REITs in Saudi Arabia is used in this study to compare each group against the other to highlight the performance differences. By examining the mean, standard deviation, maximum, and minimum values, descriptive analysis is used to characterize the data.

*Table 3 Return On Total Assets (ROA)*

<b>Descriptive Statistics</b>					
	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Dev</b>
<b>REITS</b>	11	-0.10	0.83	0.0018	0.10017
<b>RE Co.</b>	13	-1.44	0.11	-0.0052	0.2283

**Source:** Author's own.

The Return on Total Assets (ROA) figures for RE CO. (N=13) and REITS (N=11) as a control group are displayed in Table 6. The ROA for REITS ranged from a minimum of -0.10 to a maximum of 0.83, with an average of 0.0018 and a standard deviation of 0.10017. With a minimum value of -1.44 and a maximum value of 0.11, the average ROA for RE Co. dropped to -0.0052 with a standard deviation of 0.2283. The descriptive statistics show that REITS has

a significantly higher return on assets, which confirm that REITs, as a form of patient capital, can leverage the portfolio of company's effectively, even during financial distress.

Table 4 Return on Total Equity (ROE)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Dev
REITS	11	-0.40	4.17	0.1406	0.6834
RE Co.	13	-2.35	0.768	-0.111	0.4209

**Source:** Author's own.

The Return on Total Equity (ROE) figures for RE Co. (N=13) and REITS as a control group (N=11) are displayed in Table 7. The ROE for REITS ranged from a minimum of -0.40 to a maximum of 4.17, with an average of 0.1406 and a standard deviation of 0.6834. With a lowest value of -2.35 and a high value of 0.768, the average ROE for RE Co. dropped to -0.111 with a standard deviation of 0.4209. The results highlight that REITs have a higher and positive (ROE) compared to other companies that were selected in the sample. REITs has a positive average, meaning that equity investment are profitable. On the hand other real estate companies has struggled during the financial shock, to generate profit.

Table 5 Net Profit Margin (NPM)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Dev
REITS	11	-2.32	29.17	0.578	4.83
RE Co.	13	-32.65	0.64	-1.0763	4.017

**Source:** Author's own.

Table 8 displays the Net Profit Margin (NPM) figures for RE Co. (N=13) and REITS as a control group (N=11). The average NPM for REITS was 0.578, with a standard deviation of 4.83, a minimum of -2.32, and a maximum of 29.17. With a minimum value of -32.65 and a maximum value of 0.64, the average NPM for RE dropped to -1.0763 with a standard deviation of 4.017. meaning that REITs was able to profit during financial shocks. On the hand that, RE Co. were not able to generate profit during the pandemic.

Table 6 Averages of REITs & other companies

Variable	Average		Description
	REITS	RE Co.	
NPM	0.724	-1.764	Decreased -

<b>ROA</b>	0.192	-0.0078	<b>Decreased-</b>
<b>ROE</b>	0.178	-0.1002	<b>Decreased-</b>

**Source:** Author's own.

The averages of REITS as a control group (N=11) and RE Co. (N=13) are compared in Table 9, ROA dropped from 0.192 to -0.0078, ROE dropped from 0.178 to -0.1002, and NPM dropped from 0.724 to -1.764. In other words, REITs was able weather the storm of the financial pandemic, and not like the other real estate companies that has suffered negative returns to some degree.

#### **4.5 Correlation Analysis**

The correlation matrix offers a thorough understanding of the relationships between variables and their potential influence on the model, providing critical insights for assessing multicollinearity and guiding decisions on model refinement. Return on Equity (ROE), a key measure of firm performance, has a moderately negative correlation with debt-to-equity (-0.45), reflecting the financial theory that increased leverage reduces profitability due to rising financial burdens. ROE's weak positive correlation with firm size (0.12) suggests that larger firms may have slight profitability advantages, possibly from scale economies, although this effect is not substantial, emphasizing the complexity of performance determinants. Liquidity, represented by the current ratio, shows no significant correlation with ROE (-0.00), indicating that short-term solvency does not directly impact profitability. In contrast, cash from operations has a modest positive correlation with ROE (0.09), highlighting the importance of cash flow efficiency in financial performance. These findings suggest that while liquidity metrics may not directly affect equity returns, operational cash flow management remains essential.

Table 7 Correlation Analysis

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)	ROE	1								
(2)	Debt to equity	-0.45	1							
(3)	Firm Size	0.12	0.10	1						
(4)	Current Ratio	-0.00	-0.03	0.03	1					
(5)	Cash from Operation	0.09	-0.04	0.58	-0.08	1				
(6)	Ave. Repo Rate	0.05	0.11	0.01	-0.04	0.12	1			
(7)	COVID-Cases	0.01	0.10	0.04	-0.16	0.10	0.22	1		
(8)	Pandemic Dummy	-0.03	0.14	0.05	-0.10	0.11	0.81	0.41	1	
(9)	Debt-Repo	-0.27	0.87	0.04	-0.02	-0.03	0.40	0.15	0.35	1
VIF			6.28	1.61	1.04	1.60	4.03	1.29	3.64	7.24

**Source:** Author's own.

Macroeconomic variables display subtle relationships with ROE. The average repo rate, a measure of borrowing costs, exhibits a weak positive correlation with ROE (0.05), which may reflect broader economic factors such as shifts in monetary policy rather than a direct impact. COVID-19-related variables, including case numbers (0.01) and the pandemic dummy (-0.03), show negligible correlations with ROE, suggesting minimal direct effects of the pandemic on equity returns in this dataset. Beyond ROE, debt-to-equity exhibits a strong positive correlation with the Debt-Repo interaction term (0.87), as expected given the construction of the interaction term. This strong collinearity raises concerns about multicollinearity, which can distort regression results. Debt-to-equity also has moderate positive correlations with the pandemic dummy (0.14) and the average repo rate (0.11), indicating macroeconomic influences on leverage during the pandemic.

Firm size and cash from operations share a moderate positive correlation (0.58), reflecting the natural link between firm scale and operational cash generation. Larger firms often benefit from stable revenue streams and operational efficiencies, explaining this relationship. The pandemic dummy strongly correlates with the average repo rate (0.81), demonstrating the alignment of monetary policy with pandemic conditions, while its moderate correlation with COVID-19 cases (0.41) highlights the interplay between public health metrics and economic policy. The Debt-Repo interaction term, aside from its strong correlation with debt-to-equity, also correlates moderately with macroeconomic variables like the average repo rate (0.40) and the

pandemic dummy (0.35), underscoring the nuanced interactions between financial leverage and external economic conditions.

Variance Inflation Factor (VIF) analysis further evaluates multicollinearity by measuring how much the variance of a coefficient is inflated due to collinearity. A VIF exceeding 5 indicates moderate multicollinearity, while values above 10 signal severe issues. Debt-to-equity has a VIF of 6.28, confirming moderate multicollinearity, consistent with its strong correlation with the Debt-Repo interaction term. Firm size and cash from operations have VIF values of 1.61 and 1.60, respectively, indicating minimal collinearity concerns. Similarly, the current ratio (VIF = 1.04) shows no significant issues. The average repo rate has a VIF of 4.03, nearing the threshold but within acceptable limits, although its strong correlation with the pandemic dummy (0.81) suggests careful interpretation is needed. COVID-19 cases (VIF = 1.29) and the pandemic dummy (VIF = 3.64) remain within acceptable ranges, though their interaction with macroeconomic variables requires attention. The Debt-Repo interaction term, with the highest VIF of 7.24, signals severe multicollinearity. Its inclusion alongside debt-to-equity risks inflating standard errors and complicating coefficient estimates, emphasizing the need to manage collinearity carefully.

Despite these challenges, excluding or refining variables may not be the best course of action. Both debt-to-equity and the Debt-Repo interaction term are theoretically significant, as they are central to understanding financial leverage and its interaction with macroeconomic conditions.

#### **4.6 Regression Results**

The regression analysis of the determinants of Return on Equity (ROE) provides valuable insights into how various financial and macroeconomic factors influence firm profitability. The model explains approximately 48.14% of the within-entity variation in ROE, as indicated by the R-squared (within) value, which signifies a moderate level of explanatory power. This suggests that the independent variables capture key aspects of financial performance across firms over time. However, the negative R-squared (between) and R-squared (overall) values indicate challenges in explaining variations between firms or across all observations, likely due to omitted variables or other model specification issues. Additionally, the significant F-statistic for poolability confirms the presence of fixed effects, justifying the inclusion of entity-specific characteristics to control for unobserved heterogeneity.

Among the significant variables, the debt-to-equity ratio exhibits a negative and statistically significant effect on ROE. This finding aligns with financial theory, which suggests that

excessive leverage erodes profitability by increasing financial risk and interest expenses. Firms with higher debt burdens often face challenges in sustaining returns on equity, especially during periods of economic volatility. Similarly, the current ratio, typically a measure of liquidity, also shows a significant negative effect on ROE. While liquidity is crucial for financial stability, an excessively high current ratio may indicate underutilized resources or a conservative financial strategy, both of which can constrain profitability. These findings underscore the importance of balancing leverage and liquidity to optimize financial performance.

Table 8 Regression Results

Panel OLS Estimation Summary			
Dep. Variable:	ROE	R-squared:	0.4814
Estimator:	PanelOLS	R-squared (Between):	-3.1838
No. Observations:	120	R-squared (Within):	0.4814
Date:	Sun, Nov 24 2024	R-squared (Overall):	-1.0889
Time	23:19:18	Log-likelihood	84.745
Cov. Estimator:	Robust		
		F-statistic:	10.093
Entities:	25	P-value	0.0000
Avg Obs:	4.8000	Distribution:	F(8,87)
Min OBs:	1.0000		
Max Obs:	5.000		
		F-statistic (robust):	0.7851
		P-value	0.6170
Time periods:	5	Distribution:	F(8,87)
Avg Obs:	24.000		
Min Obs:	24.000		
Max Obs:	24.000		

**Source:** Author's own.

The Debt-Repo interaction term demonstrates a significant and positive impact on ROE, reflecting the interplay between leverage and macroeconomic conditions, such as borrowing costs. The large coefficient indicates that leveraging during periods of lower repo rates can enhance profitability, provided firms have robust financial management to mitigate risks associated with high debt levels. This insight emphasizes the need for firms to align financial strategies with prevailing economic conditions. Firm size, while only marginally significant, shows a negative association with ROE, potentially reflecting diminishing returns to scale or challenges in maintaining high growth rates as firms expand. Larger firms may need to innovate and optimize resource allocation to sustain profitability, particularly in competitive markets. Other variables, such as cash from operations, average repo rate, COVID-19 cases, and the pandemic dummy, are statistically insignificant, suggesting limited direct effects on ROE in this model. The non-significance of operational cash flows, for instance, implies that

profitability may be more influenced by strategic decisions than immediate cash flow generation. Similarly, while the pandemic dummy and COVID-19 case variables do not show significant impacts, their influence might be mediated through other factors such as leverage or macroeconomic policies.

The model's R-squared values reveal notable disparities, with the within R-squared (0.4814) outperforming the between and overall R-squared values, which are negative. This suggests the model better captures variations within companies over time rather than differences between companies or in aggregate. These findings highlight the importance of longitudinal factors, such as operational adjustments or financial strategies, in shaping ROE. However, the negative between and overall R-squared values point to potential issues, including omitted variables or multicollinearity, that may limit the model's explanatory power.

Multicollinearity emerges as a critical concern in the model, particularly for the Debt-Repo interaction term and the debt-to-equity ratio, which exhibit high Variance Inflation Factors (VIFs). Multicollinearity inflates standard errors and complicates coefficient interpretation, potentially undermining the reliability of the results. Addressing this issue through alternative specifications, such as principal component analysis or ridge regression, could enhance the robustness of the findings. Additionally, the robust F-statistic, which accounts for heteroskedasticity and autocorrelation, diminishes the apparent explanatory power of the model, further suggesting the need for refinement.

The regression results have significant implications for financial management. The negative effects of leverage and liquidity measures on ROE emphasize the importance of balancing financial stability with growth strategies. Companies should avoid excessive reliance on debt and ensure that liquidity is deployed effectively to support profitable investments. The positive impact of the Debt-Repo interaction term highlights the potential for companies to capitalize on favorable macroeconomic conditions, such as low interest rates, to enhance profitability. However, these strategies must be pursued cautiously, as over-leveraging during periods of economic uncertainty can amplify risks.

Despite its strengths, the model has several limitations. The small sample size (120 observations across 25 entities) restricts the generalizability of the findings. Expanding the dataset to include more companies or longer time periods could provide a more comprehensive understanding of ROE determinants. Furthermore, the model excludes potentially influential variables, such as governance quality, market conditions, and industry-specific factors, which could enhance its explanatory power. Addressing these limitations through more inclusive specifications and larger datasets would improve the reliability and applicability of the results.

In conclusion, the regression analysis sheds light on the determinants of ROE, emphasizing the critical roles of leverage, liquidity, and macroeconomic conditions. While the model captures key dynamics influencing profitability, its limitations, including multicollinearity, omitted variables, and a small sample size, necessitate cautious interpretation. Refining the model and incorporating additional variables would provide deeper insights into companies performance and resilience, particularly in volatile economic environments. These findings offer practical guidance for companies seeking to optimize financial strategies and maintain profitability amidst complex economic conditions.

*Table 9 Parameter Estimates*

<b>Parameter Estimates</b>							
	Parameter	Std.Err.	T-stat	P-value	Lower CI	Upper CI	
	Debt-to-equity	-0.4147	0.1823	-2.2752	0.0254	-0.7770	-0.0524
	Company size	-0.1351	0.0748	-1.8054	0.0745	-0.2838	0.0136
	Current Ratio	-0.0922	0.0449	-2.0520	0.0432	-0.1816	-0.0029
	Cash from operation	-0.0049	0.0097	-0.5094	0.6118	-0.0243	0.0144
	Ave. Repo rate	-0.0312	0.0270	-1.1569	0.2505	-0.0849	0.0224
	COVID-19 Cases	0.0135	0.0129	1.0442	0.2993	-0.0122	0.0391
	Pandemic Dummy	-0.0509	0.0464	-1.0967	0.2758	-0.1432	0.0414
	Debt_Repo_Interaction	5.9860	2.8078	2.1319	0.0358	0.4053	11.567
	F-test for Pool ability:	5.0431					
	P-value:	0.0000					
	Distribution:	F(24,87)					

**Source:** Author's own.

# **CHAPTER FIVE: DISCUSSION**

## **5.1 Introduction**

The study shows that the debt-to-equity rate and financial performance are negatively correlated. Increased debt to equity is typically correlated with decreased efficiency, also it can be implied that the company operate with a high debt has a larger market share, and stronger business operations. Those findings highlight what previous studies has shown that over-leveraging can expose the companies vulnerabilities during financial shocks and economic uncertainty. Likewise, current ratio highlights the importance of maintain its liquidity to sustain the company's operation and profitability,

The interaction term between debt-to-equity and average repo has a positive relationship, on the other hand, pandemic dummy and the number of COVID-19 cases did not have a significant impact. Which means that on the company's level financial policies and regulations had more impact and influence in shaping the company's ability to generate profit during time of financial shocks than the pandemic itself in the context of the Saudi Arabia's real estate market. The lack of significance for some variables could also be attributed to market-specific factors, such as the regional economic structure, government interventions, or variations in real estate investment behavior, which are worth exploring in future research.

Overall, these results emphasize the need for real estate companies to adopt dynamic and adaptive financial strategies, focusing on liquidity management. Given the context of the Saudi Arabia, where real estate is a cornerstone of economic activity, companies must strike a balance between leveraging opportunities for growth and maintaining sufficient buffers to withstand external shocks. These insights hold practical relevance for policymakers and industry practitioners aiming to enhance financial resilience and stability in the sector.

## **5.2 Resilience Of Real Estate Companies As Patient Capital**

The pandemic acted as a stress test, emphasizing how important strategic financial management is to preserving stability and guaranteeing recovery. This includes measures for income development and leverage reduction.

Because their activities require a lot of capital, real estate companies have historically relied on heavy leverage. As rental earnings and asset values dropped during lockdowns, businesses with high levels of borrowing experienced liquidity issues. High debt levels with interest payments further taxed cash flows. Because they could service debt while keeping operational flexibility, businesses with moderate leverage levels fared better. According to income researchers, shocks during the pandemic had the following effects on income growth rate management: Due to remote work and decreased customer activity, office and retail real estate

saw drops in rental incomes. Nonetheless, the expansion of e-commerce benefited logistical and industrial assets, underscoring the need of having a variety of revenue sources. Agree with Hossain (2021), Stalmachova, Chinoracky & Strenitzerova (2021).

The findings highlight the resilience of real estate companies as patient capital, particularly during the COVID-19 pandemic, demonstrating their capacity to endure economic shocks. Characterised by long-term investment horizons and tolerance for short-term volatility, patient capital is naturally fit for the real estate market. This research's unfavourable effect of the debt-to-equity ratio on ROE emphasizes the need of financial restraint. Companies with less leverage showed more resilience, showing how cautious loan structures protect against financial difficulty—particularly in a context of turbulence. This emphasizes how real estate firms depending on patient capital gain from a judicious balance of debt and equity, which over time helps them to remain profitable.

Moreover, resilience turned out to be much influenced by liquidity. The negative link between the current ratio and ROE implies, even in crises, too much liquidity may represent inefficiencies or poor asset allocation. Real estate firms still have to keep a good liquidity buffer, though, if they are to negotiate unanticipated disturbances. Liquidity management becomes crucial in Saudi Arabia, where government policies and regional economic dynamics significantly affect real estate markets, in guaranteeing long-term stability and investor confidence. On the other hand, the pandemic dummy and number of COVID-19 confirmed cases were macro-level variables that had no effect on ROE, therefore underlining the natural stability of real estate as an asset class.

In general, the study, through reviewing the research results and previous studies, that in order to reduce the risks associated with office and retail assets, resilient enterprises shifted their focus to asset classes that had consistent demand during the pandemic, including as residential and logistics properties. During times of lower revenue, businesses were able to control operating costs and pay off debt by keeping enough liquidity reserves. Businesses were able to continue operating during lockdowns thanks to digital solutions like automated lease administration and virtual property tours, demonstrating the value of innovation in disaster resilience. Fiscal policies implemented by governments, such as rent reductions and loan repayment moratoriums, were crucial in keeping the industry stable. The stability of the industry was strengthened by long-term investments in resilience strategies including tech adoption and sustainable building practices, which matched the goals of patient capital. That in the line of Bhattacharyya & Thakre (2021), Zou, Huo & Li (2020), Nanda, et al. (2021).

In conclusion, the study aims to examine the effects of COVID-19 pandemic period on the performance of Saudi real estate market by analyzing publicly listed real estate companies including REITs. As a results, the study has investors, policymakers, and academic interests. Companies that has implemented sustainable, long-term financial strategies performed better and were more adaptable, providing a path to future crisis resilience.

The study findings provide an understanding of financial performance during financial shocks, with a focus on real estate companies in Saudi Arabia. Thus, it highlights the patient capital's role in financial sustainability, offering guidance for policymakers, investors, and business executives. The study indicates that the pandemic's direct effect on financial resilience, is comparatively minimal. These results suggest that Saudi Arabia's real estate companies may have alleviated substantial financial disturbances using efficient strategies such as government assistance programs or operational adjustments. Further understanding of the sector's flexibility comes from the noteworthy connection between debt-to-equity ratios and average repo rates. This interaction suggests that in order to improve profitability, real estate companies deliberately match their financial leverage with current monetary situation. Such responsiveness emphasizes their capacity to include macroeconomic issues into financial decision-making, a quality consistent with the ideas of patient capital by giving sustainable development and long-term stability top priority above reactionary methods.

Real estate enterprises' overall crisis-resilience emphasizes their fit as patient capital investments. These companies are a consistent and reliable asset class since they can withstand economic shocks and keep profitability positions. This emphasizes to legislators and investors the need of creating conditions that support long-term investment practices, strong financial structures, and effective liquidity management so ensuring that the real estate sector keeps growing even in difficult times.

The study shows a significant correlation between debt-to-equity and ROE, and this association underscores the significance of reliable debt management in strengthening companies position against disruptions. The findings correspond with patient capital concepts, promoting long-term, growth-focused methods that enhance financial stability

# **CHAPTER SIX: CONCLUSION**

## **6.1 Introduction**

The findings provide policy insights into the real estate market in Saudi Arabia, with a focus on enhancing financial resilience and promoting long-term stability. These recommendations are consistent with the goals of Vision 2030 to diversify the economy and promote a strong real estate sector. Promoting conservative debt policies is of paramount importance, as the inverse relationship between debt-to-equity ratio and financial performance suggests a need to reduce reliance on debt. Regulators may implement incentives, including tax breaks or financing schemes, to encourage equity-based financing, thereby enhancing firms' resilience to market volatility. Second, improving liquidity management inefficiencies through incentives to invest in high-return projects, especially sustainable development, may enhance capital allocation. Promoting financial literacy programs that focus on effective liquidity management and contribute to the sector's overall financial performance. The importance of flexible monetary policies in times of crisis is clear, as low repo rates can ease financial pressures on highly leveraged firms. The Saudi Central Bank should remain prepared to adjust interest rates in response to economic turmoil to maintain market stability. Furthermore, promoting the development of REITs through favorable regulatory frameworks, including lower tax obligations and streamlined compliance processes, could improve financial stability and attract increased investor participation. Strengthening crisis management frameworks by establishing risk assessment and contingency planning standards, in partnership with private companies, would better prepare organizations for the challenges ahead. Furthermore, implementing macroeconomic risk management tools, including early warning systems, could enable companies to anticipate and respond effectively to economic shifts. Finally, enhancing financial literacy programs specific to the real estate sector would enable companies to make informed decisions about debt and equity management, thereby improving resource optimization. Implementing these policies would enhance the financial resilience of the real estate market in Saudi Arabia, align it with the sustainability goals of Vision 2030, and enable it to thrive in a changing economic environment.

## **6.2 Recommendations**

The study encourages companies to adopt conservative debt strategies, and policy makers may incentivize equity-based financing by tax breaks. Companies shall enhance and optimize their liquidity management practices. In addition, the Saudi Central Bank (SAMA) to continue the implementation of flexible monetary policies.

### **6.3 Future work**

This research study has a number of limitations and further research is necessary to enhance the results. A small sample size, that only include publicly listed real estate companies in Saudi Arabia. Thus, the results and findings cannot be generalized across sectors or private companies which can have a different financial performance and capital structure. Other factors were not factored in the study which can have an impact on the financial performance such as managerial decisions, governmental social programs, or other external market factors. In addition, the study has measurement limitation since it assessed the financial performance by one financial metric which provide a limited analysis and does not capture the complexity of the real estate sector and the companies' financial structure. Future studies future studies can examine the performance of real estate market and other sectors across the GCC, and employing additional resilience measures to has a holistic analysis.

## **References**

- Acciarini, C., Boccardelli, P., & Vitale, M. (2021). Resilient companies in the time of Covid-19 pandemic: a case study approach. *Journal of Entrepreneurship and Public Policy*, 10(3), 336-351.
- Alajlani, S. E., Khan, M. M. S., Yesufu, L., & Khan, Y. (2024). THE IMPACT OF COVID-19 On Stock Markets: A Systematic Literature. *Journal of Governance and Regulation*/Volume, 13(1)
- Deraman, F., Ismail, N., Hamzah, S. N., & Tuan Zainudin, T. Z. A. (2021). A review of hotels' survival strategies during COVID-19 pandemic in Malaysia. *e-Academia Journal*, 10(2), 73-83.
- Allen, F., Babus, A., & Carletti, E. (2009). Financial crises: theory and evidence. *Annu. Rev. Financ. Econ.*, 1(1), 97-116.
- Amihud, Y., Hameed, A., Kang, W., & Zhang, H. (2015). The illiquidity premium: International evidence. *Journal of financial economics*, 117(2), 350-368.
- Amit, R., & Shoemaker, P. (1993). Specialized assets and organizational rent. *Strategic Management Journal*, 14(1), 33-47.
- Aspara, J., Pajunen, K., Tikkanen, H., & Tainio, R. (2014). Explaining corporate short-termism: self-reinforcing processes and biases among investors, the media and corporate managers. *Socio-Economic Review*, 667-693.
- Atayah, O. F., Dhiaf, M. M., Najaf, K., & Frederico, G. F. (2022). Impact of COVID-19 on financial performance of logistics firms: evidence from G-20 countries. *Journal of Global Operations and Strategic Sourcing*, 15(2), 172-196.
- Baum, A. (2009). *Commercial real estate investment: A strategic approach*. Taylor & Francis.
- Bhattacharyya, S. S., & Thakre, S. (2021). Coronavirus pandemic and economic lockdown; study of strategic initiatives and tactical responses of firms. *International Journal of Organizational Analysis*, 29(5), 1240-1268.
- Brown, D. T., & Riddiough, T. J. (2003). Financing choice and liability structure of real estate investment trusts. *Real Estate Economics*, 31(3), 313-346.
- Chang, C. L., McAleer, M., & Wong, W. K. (2020). Risk and financial management of COVID-19 in business, economics and finance. *Journal of Risk and Financial Management*, 13(5), 102.
- Chih, Y. Y., Hsiao, C. Y. L., Zolghadr, A., & Naderpajouh, N. (2022). Resilience of organizations in the construction industry in the face of COVID-19 disturbances: Dynamic capabilities perspective. *Journal of management in engineering*, 38(2), 04022002.

- Damani, A., Nguyen, A. T., & Pratima, F. N. U. (2024). Navigating Real Estate Investment Trust Performance Dynamics: The Role of Style (Equity vs. Mortgage Real Estate Investment Trusts) and Diversification Amidst the COVID-19 Pandemic. *Journal of Risk and Financial Management*, 17(5), 202.
- Deeg, R., & Hardie, I. (2016). What is Patient Capital and Who Supplies it? *Socio-Economic Review*, 627-645.
- Del Giudice, V., De Paola, P., & Del Giudice, F. P. (2020). COVID-19 infects real estate markets: Short and mid-run effects on housing prices in Campania region (Italy). *Social sciences*, 9(7), 114.
- Dwiantari, R. A., & Artini, L. G. S. (2021). The effect of liquidity, leverage, and profitability on financial distress (case study of property and real estate companies on the idx 2017-2019). *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 5(1), 367-373.
- El Nemar, S., El-Chaarani, H., Dandachi, I., & Castellano, S. (2022). Resource-based view and sustainable advantage: a framework for SMEs. *Journal of Strategic Marketing*, 1-24.
- Elyassi, H. (2021). Economics of the financial crisis: any lessons for the pandemic downturn and beyond?. *Contemporary Economics*, 15(1), 100-121.
- Fahy, J., & Smithee, A. (1999). Strategic marketing and the resource based view of the firm. *Academy of marketing science review*, 10(1), 1-21.
- Fatimah, F., Toha, A., & Prakoso, A. (2019). The influence of Liquidity, Leverage and Profitability Ratio on Financial Distress (On Real Estate and Property Companies Listed in Indonesia Stock Exchange in 2015-2017).
- Geopolitical volatility returns to the financial markets. (2023). *Financial Times*.
- Ghazouani, T. (2013). The capital structure through the trade-off theory: Evidence from Tunisian firm. *International Journal of Economics and Financial Issues*, 3(3), 625-636.
- Golubeva, O. (2021). Firms' performance during the COVID-19 outbreak: International evidence from 13 countries. *Corporate Governance: The International Journal of Business in Society*, 21(6), 1011-1027.
- Gomez-Gonzalez, J. E., Hirs-Garzón, J., Sanin-Restrepo, S., & Uribe, J. M. (2024). Financial and Macroeconomic Uncertainties and Real Estate Markets. *Eastern Economic Journal*, 50(1), 29-53.
- Hameeda, A. (2015). Risk management practices of conventional and Islamic banks in Bahrain, *Journal of Risk Finance*, 13(3), 215 – 239. DOI: 10.1108/15265941211229244

- Hossain, M. (2021). The effect of the Covid-19 on sharing economy activities. *Journal of Cleaner Production*, 280, 124782.
- Hovakimian, A., Hovakimian, G., & Tehranian, H. (2004). Determinants of target capital structure: The case of dual debt and equity issues. *Journal of financial economics*, 71(3), 517-540.
- Huang, R., & Ritter, J. R. (2005). Testing the market timing theory of capital structure. *Journal of Financial and Quantitative Analysis*, 1(2), 221-246.
- Huang, W., Lan, C., Xu, Y., Zhang, Z., & Zeng, H. (2022). Does COVID-19 matter for systemic financial risks? Evidence from China's financial and real estate sectors. *Pacific-Basin Finance Journal*, 74, 101819.
- Hue, B., Jinks, A., Spain, J., Bora, M., & Siew, S. (2019). Investment risk for long-term investors: risk measurement approaches: Considerations for pension funds and insurers. *British Actuarial Journal*, 24, e16.
- Kusumawardani, A., Haat, M. H. C., Saputra, J., Yusliza, M. Y., Muhammad, Z., & Bon, A. T. (2021). A Review of Corporate Financial Performance Literature: A Mini-Review Approach. In Proceedings of the 11th Annual International Conference on Industrial Engineering and Operations Management, March(pp. 7-11).
- Madhani, P. M. (2010). Resource based view (RBV) of competitive advantage: an overview. *Resource based view: concepts and practices*, Pankaj Madhani, ed, 3-22.
- Mbugua, E. W. (2010). *An investigation into application of pecking order concept by companies listed at Nairobi Stock Exchange* (Doctoral dissertation, University of Nairobi, Kenya).
- Margaritis, D & Psillaki, M 2010, 'Capital structure, equity ownership and firm performance', *Journal of Banking and Finance*, vol. 34, no.3, pp.621-632.
- Nanda, A., Xu, Y., & Zhang, F. (2021). How would the COVID-19 pandemic reshape retail real estate and high streets through acceleration of E-commerce and digitalization?. *Journal of Urban Management*, 10(2), 110-124.
- Newbert, S. L. (2008). Value, rareness, competitive advantage, and performance: a conceptual-level empirical investigation of the resource-based view of the firm. *Strategic management journal*, 29(7), 745-768.
- Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, 78(1), 185-193.

- Nuredini, B. (2020). Impact of the Covid-19 pandemic on the global real estate market. *University for Business and Technology: Pristina, Kosovo*.
- Nyaguthii, W. J. (2021). *Influence of Financial Risk Management on Performance of Real Estate Firms in Nairobi County, Kenya* (Doctoral dissertation, KeMU).
- Ogbenjuwa, L., Egbu, C., & Robinson, H. (2018, April). A strategic approach to real estate financing: challenges & opportunities in real estate financing in Nigeria. *In RICS COBRA Conference 2018*.
- Petighin, S. (2024). Pandemic-resilient investment policies: lessons learned from the COVID-19 crisis. *Economics*, 58(1), 117-132.
- Ramani, A., & Bloom, N. (2021). The donut effect: How COVID-19 shapes real estate. *SIEPR Policy Brief, January*, 1-8.
- Ricci, I., & Fischer, M. (2024). Designing a Corporate Governance Qualitative Model for Enhancing Business Resilience in the Financial Sector. *Business, Marketing, and Finance Open*, 1(4), 46-57.
- Saliha, T., & Abdessatar, A. (2011). The determinants of financial performance: an empirical test using the simultaneous equations method. *Economics and Finance Review*, 10(1), 1-19. <http://www.businessjournalz.org/efr>
- Stalmachova, K., Chinoracky, R., & Strenitzerova, M. (2021). Changes in business models caused by digital transformation and the COVID-19 pandemic and possibilities of their measurement—case study. *Sustainability*, 14(1), 127.
- Tanrıvermiş, H. (2020). Possible impacts of COVID-19 outbreak on real estate sector and possible changes to adopt: A situation analysis and general assessment on Turkish perspective. *Journal of Urban Management*, 9(3), 263-269.
- Teece, D. J. (2014). The foundations of enterprise performance: Dynamic and ordinary capabilities in an (economic) theory of firms. *Academy of management perspectives*, 28(4), 328-352.
- Thomas, R. R., Elaine, H., Wendy, L. P., & Michael, A. B. (2015). *International financial statement analysis*.
- Tierney, J. (2017). *Constructing resilience: Real estate investment, sovereign debt and Lebanon's transnational political economy*. University of California, Berkeley.
- Tomal, M. (2021). Modelling the impact of different COVID-19 pandemic waves on real estate stock returns and their volatility using a GJR-GARCHX approach: an international perspective. *Journal of Risk and Financial Management*, 14(8), 374.

- Traverso, F. (2014). *The Use of Patient Capital to Promote Real Estate Development in Walkable Communities* (Doctoral dissertation).
- Uchehara, I., Hamma-Adama, M., Obiri, K. A., Jafarifar, N., & Moore, D. (2020). Impacts and risk management of COVID-19 pandemic on real estate supply chain. *International journal of real estate studies*, 14(S1), 41-53.
- Van Thi Hong Pham, V. T., & Nguyen, N. (2022). Impact of covid-19 on the profitability performance of real estate businesses in Vietnam. *International Journal of Economics and Finance Studies*, 14(1), 377-395.
- Xiong, H., Wu, Z., Hou, F., & Zhang, J. (2021). Which firm-specific characteristics affect the market reaction of Chinese listed companies to the COVID-19 pandemic?. In *Research on Pandemics* (pp. 99-110). Routledge.
- Yousef, I. (2019). The determinants of capital structure: evidence from GCC and UK real estate sectors. *Real Estate Management and Valuation*, 27(2), 108-125.
- Zou, P., Huo, D., & Li, M. (2020). The impact of the COVID-19 pandemic on firms: a survey in Guangdong Province, China. *Global health research and policy*, 5, 1-10.