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Impact of Capital Structure on Company's Financial Performance (A study of Oil and Gas sector of Pakistan)

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Abstract

The purpose of this research is to empirically explore the impact of capital structure on a firm's profitability in Oil & Gas Sector exploration and production companies of Pakistan. Sample firms filtered for the study are OGDC, MARI, PPL and POL. The objective of this study is to determine the impact of capital structure on financial performance of oil and gas s sector companies. Annual panel data from 2011 to 2025 is used in this study. For this research, quantitative based analysis mode has employed. To achieve the study outcomes, secondary data was collected from audited annual financial statements of the companies under study, and then evaluated through descriptive statistics and correlation coefficients. During examining data, Debt/Equity Ratio (DE) measures the financing of a firm, and financial performance is proxied by Return on Assets (ROA), Return on Equity (ROE), and Earning Per Share (EPS). These companies have experienced different levels of financial growth and financing decisions, making them suitable cases for the analysis. The outcomes drawn from this study demonstrate mix linkage among numerous dimensions of capital structure of firms and their financial performance relevant in the context of the Oil & Gas sector of Pakistan. We have used random effect panel regression tool in our studies. Results demonstrated that ROA has a negative link with DE, ROE illustrates positive statistically significant association, and EPS shows an insignificant linkage with DE. Fundamentally, this study results cooperated that the sample firms under examination incorporate prompt transformations in their capital mix (debt and equity), which exposed their performance significantly. This analysis suggests the selected companies to deploy a uniform capital mix framework with an evident knowledge of firm's performance. Furthermore, the study left implications of managers, policymakers, and investors.

Keywords: Capital Structure; Firm's Performance, Oil & Gas Sector; Debt & Equity Mix.

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DEDICATION

This thesis is dedicated to my family, whose constant support, guidance, and belief in me have inspired me to pursue and accomplish this endeavour. Their love and encouragement have been a source of strength throughout this journey.

I also dedicate this work to my mentors and colleagues, whose guidance, encouragement, and constructive insights have significantly contributed to my personal and academic growth.

Table of Contents

CHAPTER 5

CONCLUSION

CHAPTER 1

INTRODUCTION

The capital structure decision is very crucial for maximizing a firm's value and performance. Capital structure is a mixture of equity and debt a firm employ for financing of assets and business activities. These sources incorporate debt with long-term feature, short term feature, common and or preferred shares or overall shareholder's equity. These funding rulings are not limited to a company's decisions, rather they play a critical role to impact a risk profile of a company, efficiency and as well as cost of capital. As far as decision, makers or managers are concerned, there is always a challenge for them to maximize the profit and reduces the cost, by deciding an appropriate mix of capital structure. The fundamental and main aim of selecting a suitable funding mix is to enhance the overall value of a shareholder's wealth. From growth prospect, a company's capital structure is very vital to determine opportunities related to growth, coping up with risks related to operations and to opt out financial sustainability due to a fluctuated industry trends and dynamics. As oil and gas sector industries are quite capital intensive, the judgements regarding capital structure have a major role in the operations of company having projects having large value, long tenure investments, and overall price volatility in a regulatory domain. The relationship between capital structure and performance of a company has been studied widely in the financial literature.

Barakzai, A. & Doğukanli, H. (2025) conducted a study to determine capital structure's impact on company's performance. The sample of this study was from emerging market firms of Poland, Thailand, Sri Lanka, Saudi Arabia and Chile, which determine a significant negative linkage between capital structure and corporate performance. **Hannyama, C., Kabwe, M., & Zulu, T. (2025)** examined the impact of capital mix on firm's financial performance of Zambian Listed firms, and concluded an insigficant impact of debt on financial performance indicators.

Hamad, S. M. (2024) offered a detail overview of capital structure's impact on a firm's performance, suggested mixed results between leverage and performance. **Lestari, A., Ichsanti,** Debt financing encourages companies to use the funds, firms to utilize borrowed funds to expand and enlarge their operational activities, long-term investment in infrastructure, which results in enhancement of production capacity. Using debt is not an unfavorable prospect for firm, instead the utilization of that debt is very crucial that how a company is using its debt. For instance, a firm has an option to utilize its debt with a financial planning and strategy to control its cost

related to capital, claim tax benefits that are associated with interest payments, and encourage financial understanding among management on the other hand, debt has some certain obligations as well. For instance, these obligations are in a form of fixed interest payments and amount of principal paid irrespective of company's financial performance. However, more debt can also limit a company's financial flexibility, due to which there is a rise in default risk, profitability decreases, specifically during months of economic recession and volatility. In parallel to this, financing from equity restricts and avoids the fixed payment obligation, which eventually lead to dilution of an ownership, due to which expectations of returns and dividends from shareholders tend to increase. **N, & Ningsih, S. (2024)** conducted an empirical study on South East Asia by using Debt/Equity and Debt/Asset ratios and concluded that higher level of debt results in lower profitability.

Pakistan's Oil & Gas sector are very sensitive and capital oriented by nature, which requires a major, initial investment in the field of exploration, production, and transport infrastructure. There are companies of Pakistan's oil and gas exploration sector, operating in various areas and regions of Pakistan. They have several plants and fields across the country. Their projects are long term fundamentally, taking months to even years in exploration. Their wells are operating in numerous locations of a country.

In Pakistan's perspective oil and gas sector carries a strategically very important position in context of economically and national energy security both. The sector has a major contribution to supply of energy, development of industry, revenues related to government, which largely incorporate this sector under an umbrella of broader economy. It contributes substantially to energy supply, industrial development, and government revenues, making its financial performance critical to the broader and wider economy. Apart from this, companies of this sector face daily and unique challenges, which includes high material costs, restricted access to long-term financing, massive project costs, global competitions, and shifts in global oil prices. Regulatory setup and framework are also a major challenge, which this sector is facing. These considerations make capital structure decisions critical, since they affect not only performance, but also the firm's ability to continue operations and remain competitive in a volatile and risky industry. **Shah, Pitafi, and Soomro's (2019)** study served as the basis for this research, which provides a methodological and theoretical model of evaluating the nexus of capital structure and financial performance in Oil & Gas sector of Pakistan. Furthermore, **Rashid and Abbas (2021)** offers empirical insights that how capital structure decisions impact corporate performance in Pakistani firms, as well as an analytical framework for investigating the significance of financing structure on Pakistan's company's performance.

Investors in Pakistan can distribute capital across a long range of businesses, with the oil and gas sector generally seen as one of the most inviting due to its consistent performance and strategic value. God gifted Pakistan with a variety of environmental assets, and the energy industry has long served as a pillar of its economic development. In 1947, at independence time, Pakistan's oil and gas resources had not been discovered. However, with the passage of time, multiple hydrocarbon discoveries occurred, specifically in 1960s and 1970s which later contributed for national cause and strengths Pakistan's economy. These developments assisted industrial growth, boosted energy security, and improved economic indicators, firmly which established the oil and gas industry as a key driver of Pakistan's economic progress. According to the **Economic Survey of Pakistan (2016–17)**, the growth of this industry has significantly improved the country's economic prospects, and it remains critical to investment decisions in local financial markets.

The macroeconomic factors and industry-specific factors also influence capital structure decisions. The interest rates, inflation and availability of credit are economic determinants that largely alter the financing strategies of companies. Financing from debt can be expensive due to high interest rates and discourage firms to borrow money, inflation and exchange rate can influence the debt cost and equity returns. When it comes to the country of Pakistan, the financial markets are quite underdeveloped and companies are prone to failure in their attempts to get access to long-term capital. This establishes the situation in which the decisions concerning capital structure are of high significance because wrong decisions can have long-reaching implications on the levels of profitability, liquidity, and financial wellbeing.

In this context, to analyze the association between financing structure and financial effectiveness is helpful in providing valuable feedback for numerous stakeholders. As far as corporate managers are concerned, this kind of analysis will be helpful for them to informs decisions about suitable mixture of funding, investment planning and risk minimizing. This study also provides analytical knowledge to investors, which includes an unambiguous understanding about trade off regarding risk and return, investment decision in a broader term and market analysis as well. This study also gives insight to the policymakers and regulators that what are the frameworks, which are necessary to support long-term economic growth, sustainable financing and long-term project analysis. This study is helpful to determine capital structure impact of a firm's financial performance on selected Oil & Gas sector companies of Pakistan. Moreover, this study will be beneficial to guide policymakers by giving them understanding that how financial strategies and planning effects the outcome of a company.

1.1 Research Questions

1. What is impact of capital structure on Return on Assets (ROA)?
2. What is impact of capital structure on Return on Equity (ROE)?
3. What is impact of capital structure on Earning per Share (EPS)?

1.2 Research Gap

While various studies have examined funding mix and business efficiency, there is a lack of study on the oil and gas sector in Pakistan. Existing studies often combine data from other non-financial sectors, ignoring the unique aspects. **Dhariwal, Gondal & Anees (2024)** investigated capital structure, firm size and profitability in Oil and Gas sector of Pakistan while avoiding tax. Study concluded that negative association with tax and positive relationship with firm size and profitability. **Hussain & Gul (2023)** conducted a study and found that capital structure effects firm's performance significantly. Prior researches have focused on broad factors influencing funding structure and its impact on performance in financial aspect, without analyzing sector-specific implications. This creates a gap in understanding how finance decisions affects profitability, risk management, and long-term growth in capital-intensive firms. This study specifically focused on the Oil & Gas sector companies, which covers the gaps and recommend practical understanding decision making at managerial level, policy formulation and an investment analysis and evaluation.

1.3 Research Objectives

1. To evaluate the impact of capital structure on Return on Assets (ROA).
2. To evaluate the impact of capital structure on Return on Equity (ROE).
3. To evaluate the impact of capital structure on Earning per Share (EPS).

1.4 Research Hypothesis

H_1: There is a statistically significant impact of Debt-to-Equity ratio on the Return on Assets (ROA).

H_2: There is a statistically significant impact of Debt-to-Equity ratio on the Return on Equity (ROE).

H3: There is a statistically significant impact of Debt-to-Equity ratio on Earning Per share (EPS).

1.5 Significance of Study

This study is statistically impactful from academic, policy and managerial aspect. In an academic context, it is highly contributable to the limited studies of sector specific literature on capital mix and corporate performance of Oil & Gas sector. As per managerial aspect, results are helpful to guide financial managers to formulate financing strategies, which provides a balance between profitability and risk. In context of investors, this study provides understanding related to highly leveraged oil and gas sector companies. From a policy prospect, the findings are very beneficial to assist policymakers and regulators to understand the sensitivity of oil and gas sector companies, which are strategically very important in the formation of uniform policies and regulatory framework.

1.6 Problem Statement

This study in the oil and gas sector demonstrates the relationship between capital structure and financial performance metrics including ROA, ROE and EPS. Despite a vital relevance of financing structure decisions for company's sustainability and profitability, the exact influence of equity and debt financing on business performance in Pakistan's oil and gas sector is confusing and quite ambiguous. Firms in this industry operate in a very leveraged and risky environment having quite capital intensive, with long-term investments that are exposed to fluctuations in global commodity prices as well as local regulatory limitations. While managers make daily finance decisions to balance growth and risk, there is no empirical evidence of how these decisions directly affect corporate performance measures. The lack of sector specific research

causes confusion for policy makers and as well as decision makes regarding a balanced financial strategy, which eventually leads to low profitability and increased financial risk. This study aims to address this gap by studying capital structure impact on financial performance of companies of Oil & Gas sector, which are listed on PSX. This study provides latest findings and insights that how financing decisions impact business outcomes in an environment having significant complications regarding operations and finance.

CHAPTER 2

LITERATURE REVIEW

The interconnection between leverage and firm's performance is one of most researched topics in the domain of corporate finance. **Fahmi, D. & Sawukir, S. (2025)** studied on companies listed on Indonesian Stock Exchange found that capital structure does not impact performance of a company. The data used for this study if from year 2017-2023.

In contrast, previous studies in international markets indicate a positive or non-linear correlation between the capital structure and the conduct of a firm. Investigating the banking firms**, Al Balushi, A. H. A., Al Balushi, A. A., & Ali, S. (2024)** discovered that an increase in leverage can lower the financial performance of a firm. They conducted this study on Indonesian firms from 2019-2023. The study evaluated that the capital structure of Indian enterprises has significant positive impact on their profitability. This means that enhancing the leverage results in increased profitability**. Syafitri, S., Putra, W. E., & Jumaili, S. (2024).**

There is also a lot of variation as evidenced by emerging and developing economies. In a multi-country study of developing countries, **Riaz et al. (2024)** established that capital structure determinants in PSX Listed non-financial companies, taking firm size as a control variable. Concentrating on the Chinese firms**.** The cost of financing is a basic and core concept in finance, influencing both corporate finance decisions and investment opportunities **(Battisti et al., 2020).**

More recent evidence by **Ali and Javid (2022)** concluded that the performance indicator for leverage various sectors and economic situations. **Hassan and Siddiqui (2024)** further elaborated that large leverage reduces the overall profitability in Oil & Gas sector of Pakistan specifically during times of price volatility**. Khan, Ali, Attaullah & Gazali (2025),** in their studies incorporated firm size and firm age as a control variable. They studied the relationship between ownership design and financial performance (ROA, ROE).

Iqbal and Usman (2018) and Rehman, Zhang, and Batool (2020) concluded that even controlling firm specific factors, leverage impact the profitability of a company in a statistical negative manner. **Khan, Kaleem, and Nazir (2019)** addressed this gap by studying oil and gas companies and concluding that leverage reduces return on assets while having an ambiguous impact on return on equity, denoting that debt can only increase shareholder pay to a certain extent. **Singh et al. (2019)** utilized a regression model having multiple variables to explore the influence of capital structure on the profitability of companies, which are listed NSE 50 index from 2008 to 2017.

Studies conducted in India and Bangladesh in the South Asian and regional setting underscore the sensitivity of firm performance to capital structure decisions. **Hoque (2020)** also revealed that the selection on capital mix and the implication of these decisions on performance are capital structure is dependent on level of leverage and market conditions, revealed mixed findings across various economies. **Nguyen and Nguyen (2020)** evaluated that debt intensive capital mix results in constrained profitability in developing markets.

The development of research also contributed to the focus of scholars on the analysis of sectors. Although the oil and gas industry play a strategic and tactical role in the economy of Pakistan, little research is conducted on this specific industry. **Akmal Shahzad et al. (2022)** concluded that Debt/Equity and Debt/Asset ratio have a significant but negative impact on sugar industry.

After studying various Pakistani and International suitable literature, we came to a point of conclusion that capital structure affects the financial performance of a company significantly. Since, the direction and magnitude may not be the same. It changes from sector to sector, institution-to-institution, industry features, and specific firm factors. As various multiple international research studies report mixed and even nonlinear effects. The supporting evidence from emerging economies including Pakistan largely shows an adverse linkage between financial performance and capital structure due to various situations in the county and economy. Despite this challenge, empirical work is growing time to time which will provide farther insights and implications as the empirical study work grows. The oil and gas sector specifically remain under-researched, which creates a clear necessity for a detailed investigation on this sector. This study attempts to bridge the gap by integrating global theoretical prospects with Pakistan-specific empirical evidence to provide strong insights into the capital structure-financial performance relationship.

2.1 Theoretical Structure

Several well-established theoretical frameworks explain the capital structure. Our research is also based on these theories, including the Modigliani and Miller propositions (1958, 1963), Agency Theory (1976), Trade-Off Theory (1977), Agency Theory and Pecking Order Theory (1984).

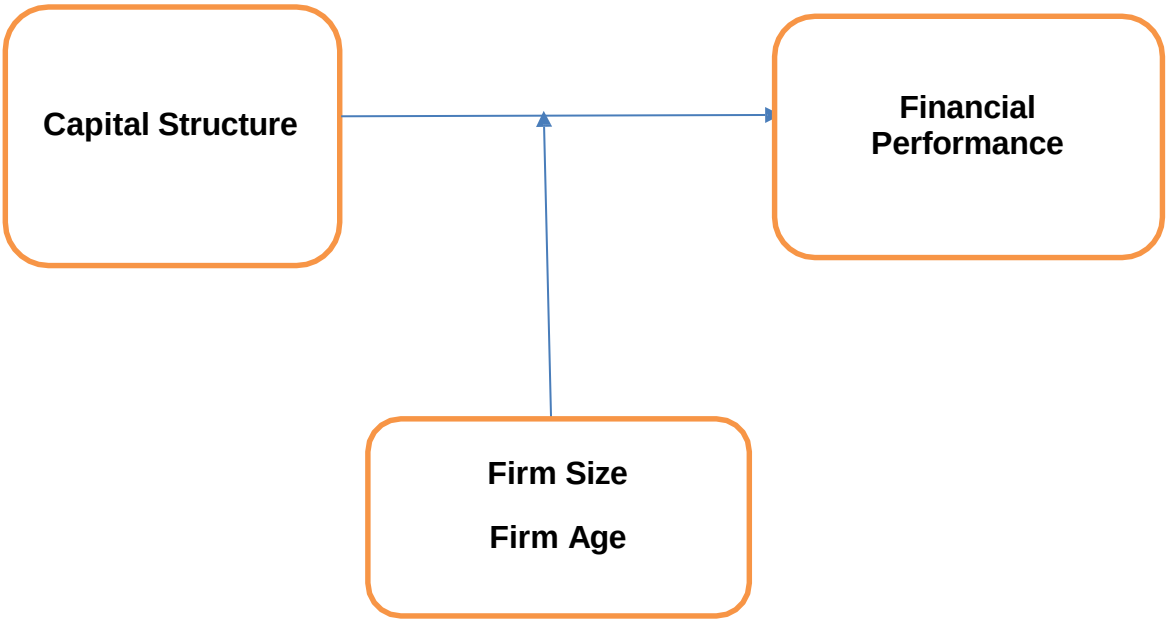
Modigliani and Miller propositions (1958) also called as insignificance and Modigliani and Merton Miller presented capital structure irrelevance proposition. According to their studies, they argued that under the strict assumptions of a perfect capital market, homogeneous investor expectations, a tax-free environment, and absence of transaction costs, capital structure is considered irrelevant in determining a firm's value. The succeeding of completely debt financing is due to tax shield. Later in 1963, traditional approached were denied, and Modigliani and Miller proposed an optimal financing structure.

An Agency theory by **Jensen and Meckling (1976),** explained the interactions between owners and managers of a company, focusing on the probable conflict of interests that can be created by the difference in goals. In the capital structure sense, the theory assumes that capital structure can have a tremendous impact on the managerial behavior and, therefore, a company's performance. In particular, increased debt rates can enforce punitive restrictions on managers by committing them to interest and principal payments and therefore limit excessive investment or inefficient resource utilization. Nonetheless, excessive leverage may increase the financial risk, which may damage the performance of the firm. On the other hand, equity financing can lead to agency costs in case the managers will focus on personal benefits instead of maximizing shareholder's wealth. Therefore, the agency theory offers a well-developed approach to the explanation of the relationship between the capital structure decisions and the major financial performance ratios, such as ROA, ROE, and EPS.

Miller (1977) proposed **Trade-Off Theory,** suggests a firm determines the composition of capital financing structure by weighing the associated costs and benefits. As per this theory, if a firm are highly profitable, the usually prefer financing from debt just for increasing a wealth of a shareholder. Furthermore, higher debt has high interest, which results in a tax benefit for a firm. In a case in which a company is low in net or operating profit, there is a risk of default due to high proportion of debt.

In 1984, The Pecking Order Theory (POT), proposed by **Myers and Majluf** proposed that firms prioritize the use of internal capital for recent and emerging investment projects, as this approach maximizes shareholder value. When internal funds, such as retained earnings, are inadequate, firms prefer debt financing, and only when additional capital is required do they issue equity. Retained earnings are prioritized initially, because of their low and minimal cost. Various empirical research has examined the influence of capital structure on a firm's performance. Since capital structure contains equity and debt financing, changes in the use of these funding sources often results in mixed and contradicting results regarding their influence on a company's performance in a financial context.

2.1 Conceptual Framework



CHAPTER 3

DATA AND METHODOLOGY

For this research, secondary data is derived from financial statements of the firm's annual reports which are listed on Pakistan Stock Exchange (PSX). The dataset consists of Oil & Gas Development Company **(OGDC)**, Mari Energies **(MARI**), Pakistan Petroleum Limited **(PPL),** and Pakistan Oilfields Limited **(POL)** by using a balanced panel dataset from **2011** to **2025.**

3.1 Independent Variable

In this research, our explanatory variable is Capital Structure, which is measured by Debt/Equity Ratio. The Debt/Equity ratio is used extensively in an empirical literature as a measurement tool for a capital mix, which reflects the portion of debt, which is utilized by a company relevant to the stockholder's equity. The data Debt/Equity is obtained by audited financial reports of the respective companies from Year **2011** to **2025**. The main reason of this time period, and selection of a company is to ensure transparency and reliability while evaluation across the time frame. The basis of using financial statement provides an in depth understanding regarding long term decisions regarding financing, and industrial trends. Moreover, this study captures the financing pattern of various selected companies, which validate the empirical findings of this research.

3.2 Dependent Variables

In this research ROA, ROE and EPS is used as proxy for Financial Performance, which is assembled from financial statements of the respective companies. ROA exhibits that how efficiently the assets have been utilized, ROE illustrates that how the returns are contributable to stockholder's equity. Similarly, EPS quantifies that up to which degree of level the earnings are associated to the shares outstanding. After collective analysis, these metrics of performance provide a significant and provide an evaluation through different financial performance dimensions, which will result in that how

various fluctuations in a capital mix, targeting Debt to Equity Ratio, influence the overall level of a company's performance.

3.3 Control Variables

Control variables are adopted to accurately determine that how independent variables influence dependent variables. To recognize the impact of Debt-to-Equity (DE) on financial performance, we include firm-specific characteristics, Firm Size (FS) and Firm Age (FA), which are chosen as control variables and remain constant throughout the research. All control variables data is taken from the respective company financial statements. For instance, we have used the above-mentioned control variables to see their relationship with the financial performance of Oil & Gas companies in Pakistan.

3.3.1 Firm Size (FS)

As Firm Size (FS) represents the total assets, total revenue or total market capitalization of a company. In this research, Firm Size is determined by applying the natural log of the total assets. The rationale of selecting Firm Size (FS) because it is important to study about operations of the company, resource capability, and its presence in the market. Moreover, it has a significant role in determining of a firm's performance. It varies from company to company. For essence, high scale firms have more access to the equity and debt markets, have more planned and diverse operations, and have stability in their cash flows. It will affect the financial performance and decision of financing. Another aspect of taking this variable is that is economies of scale, which eventually results in lowering of the overall costs, hence enhancing the profit, therefore influencing financial performance measurements like ROA, ROE and EPS. When the relationship between two variables is positive, then FS increases, so does operational capacity and resource availability, which may influence profitability.

3.3.2 Firm Age (FA)

Firm Age represents the number of years a since firm's incorporation and demonstrates experience, market presence, and operational stability. The rationale of selecting firm age as a control variable is that an age of a firm effects the overall performance metrics of a company. An older firm has more diverse and assembled operations of business. It is calculated by formula referenced in the following table. Table 1 illustrates variable descriptions and measurements.

The research sample is run on companies listed on PSX in Oil & Gas sector of Pakistan having focus on exploration and production. The data has analyzed using Stata 64 software. Four companies were filtered as per the market capitalization. To achieve research objectives, this research study incorporates a quantitative approach, which is collected through published from secondary data sources. This study is based on balanced panel dataset from **2011** to **2025.** The Panel Regression Model is a popular econometric approach for evaluating long-run and short-run associations in panel data research. It analyses panel data having representation of time series and cross-sectional attributes both, allowing for examination of individual and time-related effects on a dependent variable simultaneously.

This study's empirical approach is based on explanatory factors such as D/E in capital structure, and financial performance is quantified using Return on Assets (ROA), Return on Equity (ROE), and Earnings per Share (EPS).

3.4 Functional Model

Our study used the subsequent economic functions to evaluate the relationships linking firm's capital mix and Financial Performance. Our models focused on the following general functional shape.

$$FP=f(CS)$$

After incorporating the proxies, our model will work as below specific form.

$$ROA, ROE, EPS=f(DE, FS, FA)$$

The above estimated model signifies financial performance, which has been measured by ROA, ROE and EPS, serves as a function to Debt/Equity, Firm Age and Firm Size. This formulation enables the analysis to capture the variation in stakeholder's return, per share earnings, company's performance. With the inclusion of organizational size and firm age as a regressor, the model distinguishes debt-to-equity effect on performance. Alternatively, the error term incorporates variables like business trends and situations. Overall, it offers an organized approach to investigate the connection between capital structure and corporate performance in Pakistan's Oil &s Gas sector companies.

3.5 Econometric Empirical Model

The empirical form of the model is as follows:

$$ROA= \alpha_0+ \beta 1(DE) + \beta_2(FS) + \beta_3 (FA)+ \varepsilon_1$$
$$ROE= \alpha_1+ \beta 1(DE) + \beta_2(FS) + \beta_3 (FA)+ \varepsilon_2$$
$$EPS= \alpha_2+ \beta 1(DE) + \beta_2(FS) + \beta_3 (FA)+ \varepsilon_3$$

The above empirical model is formulated to elaborate that how a financial performance of a company influences to Debt/Equity ratio, scale or size of a firm, and age of a company in Pakistan's oil and gas sector companies. The model is explained by estimation of specific equations having ROA, ROE and EPS. Our empirical model is more valuable in understanding of performance matrices which include asset efficiency, stockholder's return and profitability per share. Beta 1, Beta 2 and Beta 3 are coefficients or parameters of Debt/ Equity. The coefficients

demonstrate that up to how much degree, shifts in debt level effects a company's performance. Moreover, ε_1, ε_2 and ε_3 refer to the error terms of ROA, ROE, and EPS models, which are assumed to be normally distributed.

Table 1

Variable Descriptions

Variable	Variable Name	Data Source	Measurement
Dependent	Return on Assets (ROA)	Annual Reports	Net Income / Total Assets
	Return on Equity (ROE)	Annual Reports	Net Income / Shareholders' Equity
	Earnings per Share (EPS)	Annual Reports	EPS (Rs.)
Independent	Debt-to-Equity (DE)	Annual Reports	Total Debt / Total Equity
Control	Firm Size (FS)	Annual Reports	FS = ln (Total Assets)
	Firm Age (FA)	Annual Reports	FA = Year of Observation − Year of Incorporation

CHAPTER 4

EMPERICAL FINDINGS

This chapter emphasizes on the results and their discussion. This study is specifically designed to study the relation of DE ratio on Return on Assets, return on Equity and Earning Per Share in Oil & Gas sector companies comprising OGDCL, MARI, PPL and POL. This section of our research reviews the empirical findings and offers the interpretation of the findings. Our section contains interpretation of analysis of descriptive statistical summary, pairwise correlation matrix, and panel model regression coefficients. The descriptive statistics reveals a baseline of the data by consolidating its essential and key features of the studied variable. Additionally, correlation matrix table is incorporated for evaluation of strength and direction among variables to specify any problem regarding potential multicollinearity. Lastly, the panel regression results are used to classify the impact of capital structure on a firm's financial performance. This analysis will be quite beneficial and offers a broad and detailed knowledge about the variables which are under studied.

4.1 Descriptive Statistics Results

Our descriptive statistics is comprised of 60 observations. Table 2 states the results of descriptive statistics of variables. ROA shows that how efficiently a firm is utilizing its assets to earn returns. The average value of ROA is 0.152, which suggests that firms in the selected sample yield an average return of 15.2% relative to their total assets. ROA shows that standard deviation has a value of .060, which shows a mid-range variability regarding profitability among the companies, that some of firms are proximate to the average, while other firms exhibit considerable deviations in an efficiency of an asset. In terms of minimum and maximum, value of ROA is .0335 and .29 respectively, which noted that the firms having less profit secures a return of 3.4%, however firms having a higher profitability earns a return of 29% as ROA. The skew value of 0.27 represents that

ROA is rather symmetric, but slightly with a positive lean. This implies that there is a fair distribution of profitability around the mean. The value of kurtosis 2.04 is lower than the normal value 3, and it signifies a flatter distribution with less extreme observations. In general, these findings indicate that there was no significant non-conformity to the normality and ROA is fairly normally distributed to be empirically analyzed.

In case of ROE, descriptive statistics shows that mean value of ROE is .274, with standard Deviation of .117. This indicates that firms in the sample generate a return of 27.4% on average on a stockholder's equity. The standard deviation shows a mild to moderate variation in the profitability of an equity which evaluates that some companies are performing close to the mean, while others are exhibiting a distinct variation in the utilization of their equity. ROE has a highest to lowest value of .09 and .538 sequentially. It predicts that the least profitable firm yields a return of 9%, and the firm which is more profitable attains a return of 53.8%. The value of skewness 0.34 implies that ROE is nearly symmetric and has a weak positive skew, and the distribution of returns around the mean is slightly asymmetric. The kurtosis of 2.14, not reaching the normal kurtosis value of 3, indicates the relatively flat distribution of light tails and of few extreme values. In general, these data do not show any significant departures of normality, which means that ROE is well-behaved enough to be analyzed as regression and panel data. The average value and standard deviation of EPS 58.93 are and 71.55 respectively, while low value is 8.74 and high value is 420.75. This higher standard deviation implies that earnings performance of the firms is highly volatile in nature, and there are companies whose earnings performance are near to the average and those with a much higher or lower earnings. The lowest EPS of 8.74 shows the least profitable firm in context to the per-share earnings and the highest of 420.75 shows a firm with very high earnings. The value of 3.06 of skewness indicates that the EPS is skewed strongly in the positive direction implying that the majority of firms have low earnings per share and only a few firms have extremely high values. A value of kurtosis of 13.52, significantly higher than the standard normal value of 3 indicates a distribution that has extreme values. These outcomes suggest a strong non-normality that means that EPS is affected by too big values and might need to be transformed or use strong methods of estimation in the actual research. Likewise, the mean value of DE .039, and standard deviation is .142, while smallest value of DE is 0 and highest value of 1.063**.** The value of skewness of 6.48 indicates that the distribution is highly positively skewed and indicates

that the highest proportion of firms has had low leverage with only a few firms having extremely high debt ratios. Also, the value of kurtosis is 46.75 which is quite abnormal. These findings affirm a significant deviation of normality. The average DE ratio stands at 0.040 and this means that the sample firms are on average very low on the debt burden within their financing structure relative to equity. The standard deviation of 0.142 indicates a lot of variation of firms meaning that although some of the firms have low levels of debt, others have a lot of leverage. The lowest figure of 0 means that at least one of the sample firms is fully financed by equity, and the highest figure of 1.063 represents the fact that some of the firms have such high levels of debt that they are totally financed by equity. The firm which is fully financed from equity is OGDC. FS is taken as a control variable in our research to measure the Firm Size, which comprise of average value and standard deviation of 19.11 and 1.14 respectively. The lowest and highest are 17.05 and 21, which means that there is no extreme variability in the sample as to the size of firms. The value of skewness and Kurtosis 0.16 and 1.91 respectively. It shows that FS is more or less symmetric, and the skew is very small. Our kurtosis value indicates that the distribution is not very skewed with faster tails but with few extreme values. On the whole, such statistics suggest that FS follows a normal distribution without any serious deviation, which presupposes that it is appropriate to use it to analyze regression and panel data. Our last variable in descriptive statistics is FA, which is also a control variable with respect to the Firm Age. The mean firm age is 47.75 years, with a standard deviation of 21.39, indicating substantial variation in the age of firms within the sample. The lowest and highest values are 14 and 75 years, respectively, suggesting that the youngest firm in the sample has been operating for 14 years, while the oldest has been in operation for 75 years. The value of the skew, -0.13, shows that FA is near-symmetric and has a small negative skew, meaning that the distribution of values around the mean is even, and the few observations tend to be on the low side. The value of the kurtosis of 1.33 is lower than the normal value of 3 indicating that the distribution is relatively flat with light tails and a few extreme observations. In general, these findings indicate that FA is a well-balanced and stable distribution that can be used in regression and empirical analysis.

The descriptive statistics will give a clear picture of the financial performance and structure of the sampled firms. ROA and ROE imply that the firms have moderate or high variability in terms of profitability, either at the asset or equity level whereas EPS reflects high volatility of the firms.

The DE ratios indicate that the majority of the firms apply more equity rather than debt, but leverage can vary significantly. The control variables, FS and FA portray the mild difference in the size of firms and significant difference in the age of the firm, which illustrates the variety of experience and size among the sample. Together, these findings provide a platform on which the relationship between capital structure and firm characteristics and corporate performance may be studied.

Table no 2 Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
ROA	0.152	0.06	0.0335	0.29	0.27	2.04
ROE	0.274	0.117	0.09	0.538	0.34	2.14
EPS	58.93	71.55	8.74	420.75	3.06	13.52
DE	0.039	0.142	0	1.063	6.48	46.74
FS	19.11	1.14	17.05	21	0.16	1.91
FA	47.75	21.39	14	75	-0.13	1.33

4.2 Correlation Results

The following variables are analyzed using a correlation matrix table. These correlations describe how these studied variables i.e. ROA, ROE, EPS, FS and FA relate to DE. The central aim is to examine if there is any bivariate nexus between each dependent variable with its corresponding and independent variable. This exercise will determine whether there is a multicollinearity among various studied variables. Results of correlation are listed in Table 3. Results reveal Debt-to-Equity (DE) ratio and ROA are found to be correlated negatively i.e. -0.2570, which implies that the general idea is that the greater the leverage, the less the asset profitability. It means that the greater the dependence on debt, the less efficient can be the utilization of the assets of a firm. This is due to the higher financing cost or greater risk of financial and monetary risk. Similarly, DE has a positive relationship with ROE 0.2563 showing that leverage is likely to increase returns to

shareholders which is in line with leverage effect in which debt increases equity returns. The correlation between DE and EPS -0.0234 is, however, very weak, and borders the zero, which means that there is no meaningful linear consistent relationship which shows an insignificant effect of capital structure on EPS. The performance measures are positively correlated to each other, with ROA and ROE having a high correlation 0.5582, which serves as an indication of the fact that the performance of a firm in terms of assets utilization also has a likelihood of earning higher returns to stockholders. Correspondingly, EPS and ROE have a moderate positive correlation 0.4528 which says that an increase in equity returns is mostly accompanied by an increase in the earnings per share. The correlation in ROA and EPS 0.2112 is positive yet not as strong, which means that asset profitability is not necessarily directly reflected in per-share earnings which is probably a consequence of financing structure and shareholding structure difference. In case of correlation between FS and ROA is -0.2354, which indicates a moderate weak association. This is due to a fact that forms having large size have a slightly lower as compare to firms having relatively smaller size. In addition to this, association of FS with ROE and EPS is negative containing values of -0.4695 and -0.0264. The low value of the correlation between EPS and firm size indicates that the number of shares or amount of earnings per share is not significantly influenced by the size of the firm. Conversely, the negative relationship between ROE and firm size moderate, and this could suggest that large firms tend to generate fewer returns on equity because returns are distributed among more shareholders and larger organizations have additional administrative and operating expenses. In essence, size does not have a direct impact on per share earnings, but it may dilute the equity profitability in totality. Likewise, association between FS and DE shows result of -0.2846. The negative relationship is weak to moderate, and this means that the bigger companies are less inclined to be debt-financed. This could be due to the fact that larger companies are usually in a position to access internal financing sources or retained earnings and thus the company does not need to access external sources of financing. Also, large companies may choose to keep financial risk to a minimum to ensure their operations and credit base, which results in relatively low leverage. Furthermore, FA is negatively correlated to DE, EPS and FS, while positively correlated to ROA and ROE having values of -0.1511, -0.0248 and -0.0629 respectively for negative parameters, and values of 0.1243 and 0.1540 having positive parameters. The positive relationship between older firms and ROA and ROE is weak, and this is indicative of the fact that experience and maturity enable firms to use assets more effectively and yield a little higher return

to the shareholders. This could be because of decades of experience of management, routine operations and better relationship with customers and suppliers, which makes it profitable in the long run. Conversely, the correlation coefficient of EPS with firm age is insignificant, which suggests that the per-share earnings depend on the length of the operating period of a firm less is important; the dividend policy, shareholding structure, and market fluctuations might be considered more important factors determining EPS. In terms of capital structure, DE is weakly negatively correlated with FA which means that older firms are a little less dependent on debt which may be due to the fact that older companies have time to accumulate internal resources and retained earnings, which mean that they will not depend as much on external financing. Lastly, FS has a very weak negative value with FA, which indicates that the size of firms is not much dependent on the age; some aged firms are still small, and some young firms can develop quickly. All in all, these findings point to the fact that firm age is a small contribution in profitability and leverage trend, yet it has little impact on size and per-share earnings.

The conclusions indicate that leverage is likely to have negative impact on the asset efficiency (ROA) and, at the same time, increase the shareholder returns (ROE), which is considered as the traditional leverage effect. Simultaneously, the correlation between DE and EPS is almost zero, which means that capital structure does not directly or linearly affect the per-share earnings, and, therefore, the EPS is predetermined by other factors, including shareholding patterns, dividends policies, and volatility of earnings. Furthermore, the fact that positive correlations exist between ROA, ROE and EPS validate the observation that the performance measures are not independent of each other but rather exhibit different dimensions of financial performance. The above findings offer an initial understanding of the relationships among the variables and justify the need for further **panel regression analysis** to establish causal conclusions other than simple associations.

Table 3.

	DE	ROA	ROE	EPS	FS	FA
DE	1.0000					
ROA	-0.2570	1.0000				
ROE	0.2563	0.5582	1.0000			
EPS	-0.0234	0.2112	0.4528	1.0000		
FS	-0.2846	-0.2354	-0.4695	-0.0264	1.0000	
FA	-0.1511	0.1243	0.1540	-0.0248	-0.0629	1.0000

4.3 Panel Regression Results

This research employs Panel Regression estimation. The data set used for this research is specified as balanced panel data which defines that every firm represents the cross-section time frame for analysis in terms of panel regression. Table 4. represents panel regression results. The findings of panel regression evaluated that DE has a statistically negative relation with ROA. Table contains ***p*** values of the examined variables. Results revealed that DE will significantly decrease ROA of the respective companies.

4.3.1 Dependent Variables Results

Regression coefficients represent percentage change in dependent variable as a result of 1% change in explanatory variable while all other variables remain constant. The sign of the coefficient of slope of studied variables indicates whether the effect of explanatory variables on financial performance is positive or negative.

Regression coefficients represent percentage (%) change in dependent variable as a result of 1% change in explanatory variable while all other variables remain constant. Below table shows that

DE has positive relation with ROA, but negative relation with ROA. Similarly, DE has a negative and insignificant relationship with EPS. FS and FA has a negative association with DE. Panel regression outcomes shows that if DE increases by 1%, ROA has a coefficient of -1.37 which indicated that ROA will decrease by 1.37%, keeping other things constant. If DE increase by 1%, ROE will be boosted by .75%, as the coefficient of ROE is 0.75, keeping other things constant. While explaining control variables, panel regression study gives us statistically insignificant results.

4.3.2 Control Variables Results

The coefficient of Firm Size (FS) is -0.017 which means that an increase in the size of the firm by one unit will result in a reduction in the performance of companies by 1.77% with other variables held constant. The effect, however, is not statistically significant p = 0.255, implying that the size of firms is not an important influence on the differences in firm performance. The coefficient of Firm Age (FA) is -0.0013, which means that the increase in the firm age leads to the decline in the firm performance by around 0.13, other things being equal. This correlation is not very strong at the 10 percent (p = 0.081) level which means that the performance of old firms might be slightly worse but the relationship between them is insignificant.

4.3.3 Results Explanation

With the main explanatory variable, Debt-to-Equity (DE), the relationship is statistically significant but with a neutral and mixed effect on the performance of the firm. There is a negative and significant correlation between DE and ROA, which means that the increased leverage lowers the asset's overall profitability. This implies that companies that are more dependent on debt have higher interests and financial risk thereby decreasing their capacity to utilize their assets efficiently. In opposition, DE has a positive and significant relationship with ROE, which implies that leverage increases the overall returns of the stockholders. This observation can be attributed to the conventional leverage effect, in which debt financing increases the returns to equity holders provided that firms generate returns above the cost of debt. At the same time, the effect of DE on EPS is negative, but it is statistically insignificant, which means that the capital structure does not directly relate to either greater or lesser per-share earnings. This implies that dividend policy, earnings volatility, and structure of shareholdings are more determinant of EPS than leverage.

With respect to the control variables, firm size (FS) has a negative but not significant association with all the performance measures indicating that the larger firms are not necessarily better once capital structure has been considered. This can be attributed to complexities and inefficiency in operations as per scale. Correspondingly, firm age (FA) shows a weak and statistically insignificant impact, indicating that experience is not sufficient to work towards better profitability or efficiency. Altogether, the results demonstrate that the capital structure is one of the most important determinants of the firm performance, especially in terms of its impact on the asset efficiency and the shareholder returns, though the role of the firm size and age is not significant. These findings give a significant empirical evidence of the applicability of capital structure decisions in the non-financial sector of Pakistan in addition to the need to give more policy and managerial focus on the optimal leverage decisions.

Table 4 Panel Regression (Random Effects)

DE	Coef.	Std. Err.	z-value	P-value
ROA	-1.372772	.3077061	-4.46	0.000
ROE	.7572777	.1949367	3.88	0.001
EPS	-.0003867	.0002468	-1.57	0.117
FS	-.0176684	.0155152	-1.14	0.255
FA	-.0012611	.0007231	-1.74	0.081
Cons	.4613643	.3191689	1.45	0.148

Note: This table represents panel regression and it shows significant relationships between variables.

4.3.4 Hausman Test Results

This research uses a random-effects model in the analysis of the data. The Hausman test was performed in order to establish the best model specification. Hausman test results suggested that the model that is better to be adopted for this study. Results of Hausman test are below.

The chi-square value in the results of the test is 2.61 with a p-value of 0.6251. The p-value is far larger than the traditional significance levels (1%, 5% or 10%) so we do not reject the null hypothesis that the differences between the FE and RE coefficients are not systematic. That is to say, the difference between FE and RE estimates is not statistically significant. With the coefficients, the variation between the FE and the RE is insignificant in all the variables. As an illustration, the difference of ROA is 0.0068, that of ROE is 0.1002, and the difference of EPS is almost zero (6.33e-06). The control variables, FS and FA, also have very small differences. These insignificant values show that RE estimator is consistent and accurate to this data set. All in all, the Hausman test provides evidence in favor of using the random-effects model that offers effective estimates and considers both the within-firm and between-firm changes over time. This ensures that the model results are sound and can be used to analyze the effects of DE on performance of firms, with the FS and FA being controlled.

Table 5 Hausman Test

Variable	FE (b)	RE (B)	Difference (b-B)	S.E. (diag (V_b-V_B))
ROA	1.36597	1.37277	0.0068034	0.3069039
ROE	0.85747	0.75728	0.1001956	0.1208792
EPS	0.00038	0.00039	6.33E-06	0.0002336
FS	0.01773	0.01767	-0.0000658	0.02904
FA	0.00299	0.00126	-0.0017246	0.0066108

Prob>chi2 = 0.6251

4.3.5 Hypothesis Validation

Table 6 validated our proposed hypothesis, which have covered in our Chapter I of the study. The hypothesis testing results summarize the relationship between Debt-to-Equity (DE) and three firm performance measures: ROA, ROE, and EPS. For the null hypotheses (H_{o1}, Ho_2), were rejected, indicating that DE has a statistically significant effect where no significance was expected, and H_{o3} was accepted, indicating no significant effect. Two of the alternative hypotheses (H_1, H_2) were

supported, confirming significant positive relationships between DE and certain performance measures, while H_3 was rejected indicating that DE has an insignificant impact on EPS. Overall, these findings show a mixed but significant impact of capital structure on firm performance.

Table 6. Hypothesis Evaluation

Hypothesis	Expected Relationship	Resulted Relationship	Accepted	Rejected
H_1	Significant	Significant	✔	
H_2	Significant	Significant	✔	
H_3	Significant	Not Significant		✔

4.3.6 Discussion

Our results are supported theoretically, as well as academically. Many literatures and theories validate our result up to a certain extent.

The random-effects panel regression model was also used **by Raza, H., Akhtar, F., Rehman, M., Naeem, S., and Aamir Ali, M. (2017)** to study the effects of capital structure on the performance of firms. Their research examined predictors like Debt -to-Equity (DE), ROA, ROE, and EPS of Pakistani non-financial companies, which offers research methodology to the application of the random-effects estimation in non-financial firms.

Ngoc, Tien, and Thu (2021) investigated the capital structure's impact on profitability. ROA and ROE were used as proxy measures of profitability in this study. The time frame was from 2012 to 2019, and the sample size consisted of 30 logistics enterprises listed on the Ho Chi Minh City Stock Exchange (HOSE). The findings of this study show a negative insignificant relationship

between Capital Structure and ROA. This supports our result in a context that capital structure has a significant negative nexus with Return on Assets (ROA).

Moreover, our result that Debt-to-Equity DE does not affect Earning Per Share EPS is aligned with the previous studies by **Utami and Hidayah (2017)** which also established that the capital structure was also not statistically significant in terms of its effect on per-share earnings.

The theoretical structure on which this research is based strongly validate our findings. Numerous capital structure theories strongly provide theoretical confirmation. For instance, Trade-Off-Theory provides a theoretical elaboration for the negative association between DE and ROA. In accordance to this theory, as financing from debt results in various advantages and tax benefits. High leverage will result in increase of financial strain, which lead to interest obligation, which can hinder the effective use of the assets **Miller (1977).** This is consistent with our finding that higher DE lowers asset profitability, highlighting the costs of over-leveraging in non-financial Pakistani firms.

Alternatively, our result related to positive and significant impact of DE on ROE, can be analyzed from viewpoint of Pecking Order Theory (POT). This theory says that firms usually prioritize internal funding, and avoid debt financing. The internal capital enhances the value of a shareholder (**Myers and Majluf,1984)**. Hence, increasing the overall return on equity. Our results are aligned and consistent with this theory.

The statistically insignificant results between DE on EPS are supported by **Agency Theory** (**Jensen & Meckling, 1976**). This suggests that managerial decisions, dividend policies, and shareholder distribution mechanisms have a greater effect on per-share earnings, same like leverage. Managers can tactically allocate resources to meet varying shareholder expectations or retain earnings for reinvestment, reducing the direct impact of debt on EPS. Oil & Gas sector is extremely volatile. EPS in this sector remains insignificant due to high capital expenditures, changing global prices, and investment related to exploration.

CHAPTER 5

CONCLUSION

5.1 Conclusion

This research was empirically based in investigating the effect of capital structure on financial outcomes of some of the Oil and Gas exploration and production firms in Pakistan, namely, OGDC, MARI, PPL, and POL, between the years 2011-2025. The thinking behind targeting this industry is that it is an inherently capital-intensive industry which is prone to market volatility and hence financing decision making is very crucial to the performance of firms. The study has used quantitative panel data analysis by using descriptive statistics, correlation coefficients, and random effects regression modelling using secondary data on audited annual financial statements. The results show a subtle correlation between the capital structure and the financial performance. In particular, the Return on Assets (ROA) showed negative correlation with Debt-to-Equity (DE) ratio indicating that increased leverage could limit operational efficiency. Conversely, return on Equity (ROE) showed a positive and statistically significant correlation with DE, which indicates that the judicious utilization of the debt can increase returns to shareholders. Earnings Per Share (EPS) was however found to have a trivial relationship with DE meaning that short term profitability per share might not be directly tied to leverage in these companies. In general, the findings highlight that the prompt changes in capital structure are an important factor that determines the performance of firms, which indicates the level of strategic responsiveness of the chosen firms.

5.2 Policy Implications

This study has implications that are complex. To managers, the results highlight the issue of having an ideal debt-equity ratio in order to attain sustainable growth. Policymakers will be able to draw conclusions about the trend of financing the sector and the effects of corporate behavior on the performance of companies, and shareholders can acquire evidence on the effects of leverage decisions on the profitability measure. All in all, the research advances the body of knowledge on

capital structure dynamics in the Oil & Gas industry of Pakistan and provides a practical advice on strategic financial management in other capital-intensive markets.

5.3 Recommendations and Suggestions

The proposed two-stage policy framework to encourage green technology would have direct effects on the two variables in the corporate capital structure (quantified by Debt-to-Equity, DE) and financial performance (quantified by ROA, ROE, EPS) in the context of the oil and gas industry of Pakistan. In the first stage, the companies which will have no option but to import cleaner technologies will probably resort to higher levels of debt financing in the hands of intermediary financial institutions to finance such capital-intensive upgrades. Such a leveraging may result in lowering the Return on Assets (ROA) at its inception since it may raise the asset bases and financing expenses, and may increase the Earnings Per Share (EPS) in case the new technology reduces operation efficiency and profitability in comparison with the cost of debt. Nevertheless, a high DE ratio can make financial risk high especially when the promised efficiency gains or competitive advantages over the informal market players are not met on time. The second step, which involves production of green energy needs even greater amount of investment. In order to attain economies of scale, companies can use aggressive capital structure, which entails high levels of debts, which greatly affect their financial measures. In case of success, the economies of scale and market growth will be able to improve Return on Equity (ROE) with leveraged growth. On the other hand, the cost of development and the long gestation periods may put pressure on the cash flows and as such, the firms will be vulnerable to interest rate shocks and thus the entire performance measures may be detrimental in the event that the debt load becomes unsustainable. Alongside this debt-performance dynamic, the policy closely relies on a number of assumptions that affect the success of the policy. There must be a corruption free channel of the bureaucracy to make sure that the financing channel is direct and when leveraged investments are undertaken it must translate into performance improvement. Good environmental laws ensure a long-lasting solvency of such investments, which guarantee returns. Lastly, workforce should be justly transitioned to ensure the maintenance of operational stability and a social license, which would avoid any disruptions, which may jeopardize the financial payoff of these green investments. As such, policymakers need to tune financial mobilization to guarantee that the leverage generated

will be sustainable, i.e. it will translate into sustainable solution of ROA, ROE, and EPS, as opposed to making financial health more vulnerable.

5.4 Limitations and Future Research

In this section, we discuss the limitations and future research of our research. It is crucial to acknowledge the potential limitations and caveats that may affect the interpretation and scope of inference of our findings. The present research is limited to four Oil Gas sector firms from exploration and production fields listed on PSX, and data of analysis is from 2011-2025. Small sample size has been taken to conduct this study, just to emphasize companies operating in exploration and production domain which may not provide a broader application of results in the complex interplay between Capital Structure and Firm's Performance. Additionally, the research might face constraints in accurately capturing the diverse financial policies and socio-economic contexts of each company. These limitations suggest that while the findings play as a key role in contributions and insights, they should be interpreted with consideration and may require validation through broader, multi-sector analysis.

The other weakness of this study is the fact that there are external macroeconomic and industry specific factors, which may have affected the company like changing oil prices, regulation changes, and geopolitical events but they were not explicitly implemented in the study. These can have a dramatic impact on the capital structure decisions as well as the firm performance, therefore, bringing in unobserved heterogeneity in the findings. Also, the research is concentrated mainly on the financial ratios and quantitative measures that might not capture thoroughly on the strategic managerial decision-making, the activities of corporate governance and risk management strategies that are firm-specific. Accordingly, on the one hand, the research offers valuable information on the correlation between leverage and profitability, on the other hand, the outcomes are to be discussed in the frames of these outside and business limitations, which is why the further studies need to be conducted that would encompass both qualitative and more expanded macroeconomic factors.

Future research can build on this study by incorporating a larger and more diverse sample of firms from multiple industries to improve the generalizability of the findings. Longitudinal studies that combine macroeconomic factors, such as oil price fluctuations and regulatory changes, with

qualitative aspects, such as managerial decision-making and corporate governance practices, would provide a more complete picture of the relationship between capital structure and firm performance. Using alternative empirical techniques, such as dynamic panel models or robustness checks with transformed variables, could also help to validate the observed relationships and provide deeper insights for managers, investors, and policymakers.

APPENDIX

DE	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
ROA	-1.365969	.4345952	-3.14	0.003	-2.238455	-.4934827
ROE	.8574733	.2293733	3.74	0.000	.3969872	1.317959
EPS	-.0003803	.0003398	-1.12	0.268	-.0010625	.0003018
FS	-.0177343	.0329248	-0.54	0.592	-.0838335	.048365
FA	-.0029857	.0066502	-0.45	0.655	-.0163366	.0103651
_cons	.5160591	.4548337	1.13	0.262	-.3970576	1.429176

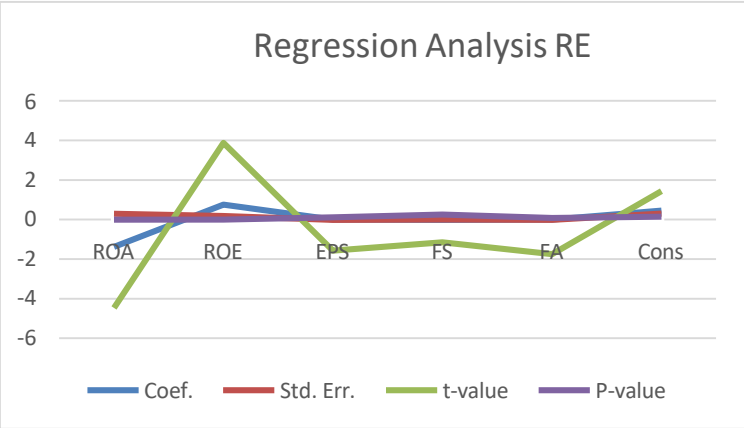
Note: (Panel Regression Fixed Results)

Abbreviations

Description	Abbreviation used
Debt to Equity Ratio	DE
Return on Assets	ROA
Return on Equity	ROE
Earnings Per Share	EPS
Firm Size	FS
Firm Age	FA

Table 4 Panel Regression (Random Effects)

DE	Coef.	Std. Err.	z-value	P-value
ROA	-1.372772	.3077061	-4.46	0.000
ROE	.7572777	.1949367	3.88	0.001
EPS	-.0003867	.0002468	-1.57	0.117
FS	-.0176684	.0155152	-1.14	0.255
FA	-.0012611	.0007231	-1.74	0.081
Cons	.4613643	.3191689	1.45	0.148


Regression Analysis RE
6
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ROA
ROE
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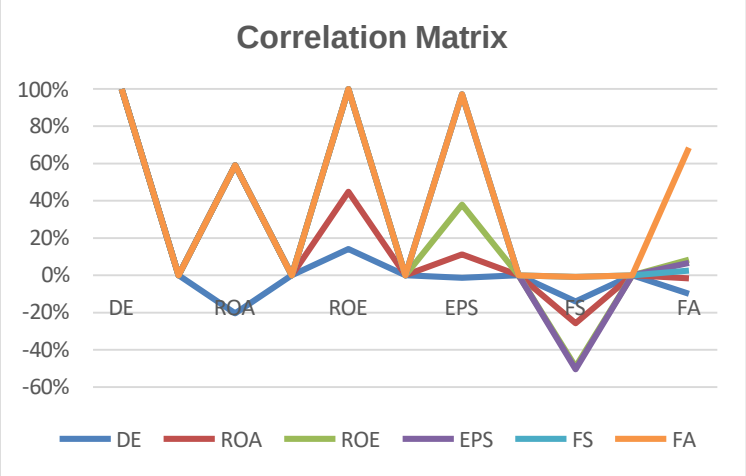
FS
FA
Cons
Coef.
Std. Err.
t-value
P-value


Correlation Matrix
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60%
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-20%
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DE
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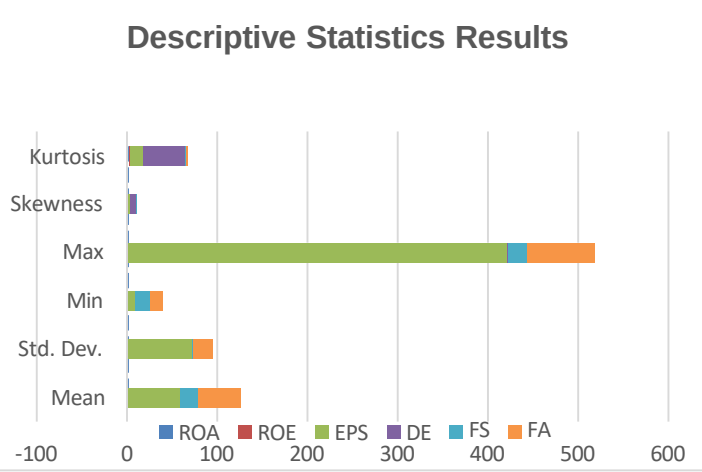
ROE
EPS
FS
FA


Descriptive Statistics Results
Kurtosis
Skewness
Max
Min
Std. Dev.
Mean
ROA
ROE
EPS
DE
FS
FA
-100
0
100
200
300
400
500
600

REFRENCES

Ali, S., & Javid, A. Y. (2022). Capital structure and firm performance: Evidence from multiple sectors. Journal of Financial Studies.

Al Balushi, A. H. A., Al Balushi, A. A., & Ali, S. (2024). Leverage and financial performance: Evidence from Indonesian firms. Asian Journal of Finance and Accounting.

Barakzai, A., & Doğukanli, H. (2025). Impact of capital structure on corporate performance: Emerging market evidence. International Journal of Economics and Financial Research.

Dhariwal, S., Gondal, U., & Anees, M. (2024). Capital structure, firm size and profitability: Evidence from the oil and gas sector of Pakistan. Journal of South Asian Business Research.

Fahmi, D., & Sawukir, S. (2025). Capital structure and firm performance: Indonesian market analysis (2017–2023). Journal of Applied Economic Research.

Hamad, S. M. (2024). Overview of capital structure and firm performance: Mixed evidence and implications. Corporate Finance Review.

Hannan, C., Kabwe, M., & Zulu, T. (2025). Debt financing and firm performance: Evidence from listed Zambian firms. African Journal of Business Management.

Hassan, M., & Siddiqui, T. (2024). Leverage and profitability in Pakistan's oil and gas sector. Pakistan Journal of Economic Studies.

Hoque, M. (2020). Capital structure and firm performance: Literature review and theoretical implications. Journal of Finance and Management.

Hussain, A., & Gul, R. (2023). Effects of capital structure on firm performance. Pakistan Journal of Commerce.

Iqbal, J., & Usman, M. (2018). Impact of leverage on profitability: Evidence from Pakistani firms. Journal of Business & Economics.

Khan, A., Ali, S., Attaullah, M., & Gazali, S. (2025). Ownership structure, capital structure, and financial performance. International Journal of Corporate Governance.

Khan, M., Kaleem, A., & Nazir, M. (2019). Capital structure and profitability: Evidence from oil and gas companies. Pakistan Journal of Economic Research.

Lestari, A., Ichsanti, N., & Ningsih, S. (2024). Debt financing, production capacity and profitability: South-East Asian evidence. Journal of Asian Finance, Economics and Business.

Miller, M. H. (1977). Debt and taxes. Journal of Finance, 32(2), 261–275.

Ngoc, P. T., Tien, N. T., & Thu, P. T. (2021). Capital structure and profitability: Evidence from logistics firms in Vietnam. Journal of Financial Economics and Policy.

Nguyen, T. H., & Nguyen, T. (2020). Capital structure and firm profitability: Evidence from developing markets. Journal of Risk and Financial Management.

Rashid, A., & Abbas, Q. (2021). Capital structure and firm performance: Evidence from Pakistan. Pakistan Journal of Commerce and Social Sciences, 15(2), 356–372.

Riaz, M., et al. (2024). Determinants of capital structure in PSX-listed non-financial firms. Journal of Finance, Markets & Regulations.

Raza, H., Akhtar, F., Rehman, M., Naeem, S., & Aamir Ali, M. (2017). Effects of capital structure on the performance of Pakistani non-financial firms. Journal of Management Sciences.

Rehman, U., Zhang, J., & Batool, N. (2020). Leverage and firm profitability: Pakistan and China evidence. International Journal of Financial Research.

Shah, S., Pitafi, A., & Soomro, A. (2019). Capital structure and financial performance: Evidence from Pakistan's oil & gas sector. Asia Pacific Journal of Financial Studies.

Singh, R., et al. (2019). Capital structure impact on firm profitability: NSE 50 evidence. International Journal of Financial Management.

Syafitri, S., Putra, W. E., & Jumaili, S. (2024). Leverage and profitability: Indian enterprise perspective. Journal of Business Research.

Utami, C. W., & Hidayah, L. (2017). Capital structure and earnings per share: An empirical study. Journal of Finance and Accounting.