

Rule of Law and Financial Performance of Oil Companies of Pakistan

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Abstract

This study investigates the impact of the rule of law on the financial performance of oil companies in Pakistan, offering novel insight into how institutional quality influences firm-level outcomes within a key strategic sector. Grounded in institutional theory, which posits that organizations are shaped by the formal and informal structures in their external environment, the research highlights how the strength or weakness of legal institutions directly affects corporate behavior, governance, and financial returns. Using panel data methodology, the study draws on secondary data from the annual reports of listed oil companies in Pakistan, complemented by macro-level data on oil prices and rule of law indices sourced from the World Bank. Empirical results reveal a statistically significant positive relationship between the rule of law and Return on Assets (ROA), underscoring that stronger institutional environments facilitate better financial outcomes. This aligns with institutional theory, which suggests that robust legal frameworks reduce transaction costs, enhance investor confidence, and promote efficient allocation of resources—factors critical to firm profitability. Conversely, weak rule of law environments introduce uncertainty, increase compliance risks, and undermine long-term strategic planning. This research contributes to the growing body of literature on governance and financial performance by isolating the rule of law as a core institutional determinant within the Pakistani context. It also underscores the need for policy reform aimed at strengthening legal institutions, promoting accountability, and ensuring transparency in the oil sector. The study acknowledges its limitation in focusing exclusively on the rule of law as a single dimension of corporate governance.

Keywords: Rule of Law, Financial Performance, Oil companies and economic crisis

1. Introduction

Pakistan's broader governance landscape is characterized by a complex interplay of political instability, weak legal enforcement, corruption, and bureaucratic inefficiencies. The country faces persistent challenges in ensuring transparency, accountability, and the impartial enforcement of laws. According to global governance indicators, Pakistan ranks relatively low in areas such as regulatory quality, control of corruption, and the rule of law. These governance shortcomings hinder investor confidence and create uncertainty for

both local and foreign businesses. Specifically, inefficiencies in the judicial system, inconsistent enforcement of contracts, and limited protection of property rights pose significant risks to firms operating in high-stakes industries such as oil and gas. The politicization of regulatory bodies and delays in policy implementation further exacerbate the challenges faced by companies in planning and executing long-term investments.

These governance issues have a direct bearing on the operational and financial outcomes of businesses. For oil companies, which typically require a stable and predictable environment for capital-intensive operations, the weakness of Pakistan's legal and regulatory institutions can lead to increased costs, delays in project execution, and exposure to legal disputes. Consequently, evaluating the rule of law as a core component of Pakistan's national governance structure is essential for understanding its impact on the financial performance of oil companies in the country.

Corporate governance is a core element of modern business practices, focusing on the frameworks and procedures through which companies are managed and regulated. The success of corporate governance mechanisms is pivotal in shaping a firm's performance and long-term viability (Majeed & Raza, 2020). Institutional quality includes various factors such as the rule of law, protection of property rights, contract enforcement, and the efficiency of regulatory systems. Robust institutions create an environment that supports effective corporate governance mechanisms, ensuring their proper functioning and impact. As a result, the relationship between rule of law and the financial performance of oil companies' quality represents an important area of research (Claessens et al., 2020).

Previous studies have examined the connection between corporate governance, institutional quality, and firm performance from multiple perspectives. Some research has concentrated on particular corporate governance practices and their influence on firm outcomes within various institutional contexts. Other studies have looked at how differences in institutional quality across countries impact the effectiveness and relevance of rule of law mechanisms. Additionally, there is an increasing body of literature exploring the ways in which institutional quality affects the relationship between corporate governance and firm performance (Filatotchev et al., 2021).

There are various interpretations of the rule of law, which makes it challenging to define it precisely. A traditional dictionary definition describes the rule of law as "the mechanism, process, institution, practice, or norm that ensures equality before the law for all citizens, upholds a non-arbitrary form of government, and more broadly, prevents the arbitrary exercise of power" (Choi, 2021). The concept that everyone is equal before the law means that all individuals are subject to the law and no one is above it—regardless of who they are, everyone is accountable to the laws of the state. In addition to limiting state power, another perspective defines the rule of law not only by the characteristics a legal system should possess but also in terms of broader justice in society, with human rights being one such important value (OSCE, 2021).

When the companies properly and correctly implemented the rules and regulations of the companies then the financial performance would automatically improve. The companies used these rules and regulations to deal with the financial crisis of the companies. The standards, criteria and the financial targets are set to the periodic determination of the operational effectiveness of the organization and its employees for better financial performance. For good development of the company and for the proper growth, future prospect the financial performance of the company should be interpreted. For the potential changes in the economic resources the financial information should be used to assess the changes. It should also be controlled the resources of the companies so that it should be predict the production resources and the production capacity of the companies (Barlian, 2003).

The relationship between the rule of law and the financial performance of oil companies in Pakistan is a crucial area for investigation. While existing studies have explored the impact of governance mechanisms and institutional quality on firm performance, the specific influence of the rule of law on the financial outcomes of oil companies in Pakistan remains insufficiently studied. This research aims to address this gap

by examining how the strength and enforcement of the rule of law affect the financial performance of oil companies operating in the country.

In Pakistan, elements such as legal frameworks, protection of property rights, contract enforcement, and the overall efficiency of the judiciary play a key role in shaping the business environment for companies, including those in the oil sector. The rule of law directly influences these companies' ability to operate effectively, manage risks, and make long-term investments, all of which impact their financial performance. Weaknesses in the legal system, such as inconsistent contract enforcement or corruption in judicial and regulatory bodies, can result in inefficiencies, increased costs, and uncertainty, thereby limiting the profitability and growth potential of oil companies.

This study has been investigating how the effectiveness of the rule of law—particularly in terms of enforcing regulations, protecting investor rights, and resolving disputes—affects key financial performance indicators such as profitability, return on assets, and overall market value for oil companies in Pakistan. By analyzing this relationship, the research will provide insights into how strengthening the rule of law could enhance the operational and financial performance of Pakistan's oil sector, contributing to the overall stability and growth of the industry. The primary objective of current study is to examine that how the rule of law impact on the financial performance of the oil companies.

This study holds substantial significance in both theoretical and practical contexts, particularly within the domain of corporate governance and institutional economics in emerging markets. By focusing on the relationship between the rule of law and the financial performance of oil companies in Pakistan, the research addresses a critical gap in existing literature where sector-specific analyses remain limited. While prior studies have investigated the general links between institutional quality and firm performance, few have examined how the enforcement strength and effectiveness of legal frameworks—a core component of institutional quality—affect financial outcomes in resource-intensive industries such as the oil sector.

From a theoretical perspective, the study contributes to a deeper understanding of how corporate governance operates within different institutional environments. It advances the discourse by isolating the role of the rule of law as a distinct institutional variable, thereby offering a nuanced view of its mediating and moderating effects on firm-level performance metrics such as profitability, return on assets (ROA), and market valuation. This focus allows scholars to better conceptualize the intersection between legal institutions and corporate governance effectiveness in contexts characterized by weak regulatory enforcement.

Practically, the study offers valuable insights for policy makers, regulators, and industry stakeholders in Pakistan and similar emerging economies. In highlighting the economic costs associated with institutional weaknesses—such as inconsistent contract enforcement, regulatory opacity, and judicial inefficiencies—the research provides a compelling case for reforms aimed at strengthening the rule of law. Improved legal environments can enhance investor confidence, reduce transaction costs, and promote more sustainable business practices across the oil sector. Furthermore, oil companies can leverage the findings to align their risk management and investment strategies with institutional realities, thereby enhancing their financial resilience and strategic planning. In sum, this study not only fills an important scholarly void but also has the potential to influence institutional reform efforts, corporate governance practices, and strategic decision-making processes in Pakistan's vital oil industry.

2. Literature Review

2.1 Conceptual Background: Institutional Quality and Rule of Law

Institutional quality refers to the strength and effectiveness of a country's formal structures—such as legal systems, regulatory frameworks, and governance institutions—which collectively determine the ease and security of conducting business. Among these, the rule of law is a core institutional component, encompassing

the extent to which laws are transparently enacted, impartially enforced, and predictably applied (Kaufmann et al., 2011). A sound legal system enhances property rights, contract enforcement, investor protection, and reduces transaction costs, all of which are fundamental to a conducive business environment (North, 1990). In economies with weak institutions, such as Pakistan, enforcement inefficiencies, legal ambiguities, and corruption hinder the realization of corporate potential. According to the Worldwide Governance Indicators (World Bank, 2023), Pakistan consistently ranks low in “rule of law,” “control of corruption,” and “regulatory quality,” which directly affects the financial performance and investment behavior of firms, particularly in strategic sectors like oil and gas.

Institutional quality encompasses the effectiveness of legal systems, regulatory frameworks, and governance structures that shape business environments. A robust institutional framework, characterized by the rule of law, transparency, and accountability, is essential for fostering investor confidence and promoting sustainable economic growth. In emerging markets, weak institutions often lead to inefficiencies, corruption, and increased transaction costs, adversely affecting firm performance (La Porta et al., 1998; Kaufmann et al., 2011).

Recent studies have emphasized the critical role of institutional quality in determining the success of firms operating in resource-rich countries. For instance, Olawale and Obinna (2023) found that in Nigeria's oil and gas sector, corporate governance mechanisms influenced by institutional quality significantly impacted firm performance. However, they noted that factors such as board ownership structure and trade ratings had varying effects, highlighting the complexity of institutional dynamics in the sector.

Institutional quality refers to the characteristics and attributes of the institutional environment in which firms operate, with the rule of law being a fundamental component. It encompasses factors such as legal frameworks, regulations, political stability, government effectiveness, and the adherence to the rule of law. The rule of law shapes the behavior, decision-making, and performance of firms by providing a structured environment for business operations. High-quality institutions, supported by the rule of law, establish clear, enforceable rules, protect property rights, ensure the enforcement of contracts, and create a level playing field for businesses. This fosters trust, accountability, and confidence in the business environment, which is essential for the long-term success and stability of firms (Amaeshi et al., 2019; Daily et al., 2003).

A study which is conducted by Candradewi & Sedana, (2016) they both examine the relationship between the financial performance and the institutional ownership of the companies. They also analyzed that how the managerial ownership, independent directors should affect the financial performance. They examine the financial performance of the companies with the help of Return on Assets. They examine that both the managerial and the institutional ownership have significantly and positively related with the financial performance of the companies.

The discourse surrounding the rule of law is often defined by the distinction between its formal requirements and the substantive aspects it is meant to include. This distinction is reflected in the various theories of the rule of law, with some viewing it solely as a concept consisting of formal governance structures, a perspective aligned with legal positivism, while others acknowledge it as encompassing moral considerations as well (Gregoriou et al., 2020).

2.2 Rule of Law and Financial Performance of Firms

Numerous studies have established that strong legal institutions improve financial performance by increasing investor confidence and reducing risk (La Porta et al., 1998; Beck & Levine, 2005). When the rule of law is effectively enforced, firms benefit from predictable regulatory environments and are more willing to make long-term investments. Conversely, weak legal enforcement creates uncertainty, increases compliance costs, and discourages foreign direct investment—factors detrimental to firm profitability (Claessens & Yafeh, 2012).

In emerging economies, including Pakistan, the absence of effective legal systems leads to under-enforcement of corporate rights, making firms vulnerable to expropriation, corruption, and bureaucratic delays (Asiedu, 2006). For capital-intensive industries like oil and gas, where large-scale investments are typical, weak rule of law significantly undermines operational efficiency and return on investment (Bhattacharyya & Hodler, 2015). A study by Bilal and Shah (2020) on energy sector firms in South Asia shows that institutional factors like legal stability and regulatory transparency are significantly linked with profitability (ROA and ROE).

The rule of law is a fundamental component of institutional quality, ensuring that laws are transparently enacted, impartially enforced, and predictably applied. A strong legal system enhances property rights, contract enforcement, and investor protection, which are crucial for firm performance (North, 1990; Kaufmann et al., 2011). Empirical evidence supports the positive relationship between the rule of law and financial performance. Claessens et al. (2020) demonstrated that in countries with strong legal institutions, firms exhibited higher levels of transparency, better financial reporting, and improved access to capital markets. Conversely, weak rule of law leads to increased risks, reduced investor confidence, and lower profitability (La Porta et al., 1998).

In the context of the oil and gas industry, the rule of law is particularly significant due to the sector's capital-intensive nature and susceptibility to regulatory changes. Firms operating in countries with weak legal frameworks often face challenges such as contract disputes, expropriation risks, and corruption, which can undermine financial performance (Bhattacharyya & Hodler, 2015).

Research by Oluwunmi & Amole, (2020) suggests that firms with high-quality financial reporting and transparent disclosure practices generally experience better financial performance. The rule of law plays a crucial role in shaping these disclosure practices by providing the foundation for the regulatory framework governing corporate reporting. Legal standards, such as accounting regulations and securities laws, determine the information firms must disclose and how it should be presented. A strong legal framework sets the minimum requirements for disclosure and offers guidelines on the frequency, format, and content of financial reports. According to Claessens et al. (2020), effective regulatory oversight and strong enforcement mechanisms, which are key elements of the rule of law, are associated with higher-quality financial reporting and improved disclosure practices.

Suwardika and Mustanda (2017) found that company growth positively impacts profitability (ROA), while leverage (DAR) negatively affects company value (PBV). Additionally, profitability (ROA) has a positive relationship with the value of the company. The result of the study which is conducted by Fitriati et al., (2018) shows that there is a negative relationship between the current ratio and the institutional ownership of the companies with the debt-to-equity ratio.

In addition to the state of the world oil production company, the private energy in the oil and gas companies becomes the one of the largest or biggest contributors to the world. On the production of oil and consumption there us a crucial effect of the various contexts and one of the main cause is the performance of the oil and gas company. In the stock exchange, the most profitable companies are the companies which have the higher ratio in the energy company's investment. In addition, the assessment of the financial fundamentals has an influence on the value of the company (Hung et al., 2018; Thu & Khuong, 2018; Khamis et al., 2018).

2.3 Corruption, Legal Institutions, and Corporate Performance

Corruption is often a byproduct of institutional weaknesses and is inversely related to the quality of the rule of law. According to Mauro (1995), high corruption levels distort resource allocation and reduce firm productivity. In countries with poor legal enforcement, firms often rely on informal means or political connections to resolve disputes or secure contracts, which increases costs and inefficiency (Fisman & Svensson, 2007).

Empirical evidence from Kaufmann & Kraay (2019) supports the idea that lower corruption and stronger legal

institutions are associated with higher firm value and better financial outcomes, especially in resource-rich sectors. In Pakistan's oil sector, regulatory capture, lack of legal clarity, and political interference have been cited as key factors inhibiting sectoral growth (Ahmed & Javed, 2021).

Corruption is often a byproduct of weak legal institutions and has detrimental effects on firm performance. Mauro (1995) highlighted that corruption distorts resource allocation, increases operational costs, and deters investment. In the oil and gas sector, corruption can manifest in the form of bribery, misallocation of resources, and unfair competition, leading to inefficiencies and reduced profitability (Fisman & Svensson, 2007). Recent cases illustrate the impact of corruption on the oil industry. For example, Gunvor, a major energy trader, agreed to pay over \$660 million to settle a U.S. bribery case involving payments to intermediaries to secure business with Ecuador's state oil company, Petroecuador. Similarly, Trafigura faced legal actions for bribery schemes in Brazil and Angola, underscoring the global nature of corruption challenges in the sector. These instances emphasize the importance of strong legal institutions in combating corruption and ensuring fair competition, which are vital for maintaining firm performance and investor trust. Due to the lack of exploration and low investment in the oil production the Indonesian economy faces the financial crisis since 1990 (Pallone, 2009). The country's GDP growth and the gas sectors are actually hampered in the recent years because the investment in the oil sector are increased. During the beginning of the financial year the production of the oil companies should be set. The oil targets of the companies are not achieved because most of the oil production are done by using the ageing field.

2.4 Rule of Law, Disclosure Practices, and Transparency

The rule of law also enhances the quality of financial disclosure and reporting, which is essential for attracting investors and improving financial performance. Studies by Bushman & Piotroski (2006) and Claessens et al. (2020) highlight that in countries with robust legal enforcement, firms are more transparent, less prone to earnings manipulation, and exhibit stronger financial fundamentals.

Transparency, driven by disclosure regulations and enforced through legal mechanisms, reduces information asymmetry and helps firms access capital at lower costs. Oluwunmi & Amole (2020) found that firms operating in legally transparent environments perform better financially due to higher stakeholder trust and easier credit access.

The rule of law also plays a crucial role in enhancing financial transparency and disclosure practices. Legal frameworks that enforce disclosure requirements ensure that firms provide accurate and timely information to stakeholders, reducing information asymmetry and fostering investor confidence (Bushman & Piotroski, 2006). In countries with strong legal institutions, firms are more likely to adhere to high standards of financial reporting, which can lead to improved access to capital and better financial performance (Claessens et al., 2020). Conversely, weak enforcement of disclosure regulations can result in earnings manipulation, reduced transparency, and increased cost of capital (La Porta et al., 1998).

The relationship between disclosure mechanisms, the rule of law, and financial performance is a vital area of study in corporate governance and finance. This in-depth analysis aims to explore both the conceptual and empirical dimensions of this relationship. Disclosure mechanisms involve the processes and practices through which firms share information with stakeholders, including investors, regulators, and the public. In the context of the rule of law, effective disclosure practices are crucial as they help ensure transparency, reduce information asymmetry, and enhance accountability, all of which contribute to fostering investor trust. When the rule of law is robust, it strengthens the enforcement of regulations related to disclosure, ensuring that companies adhere to required standards. This, in turn, can positively influence financial performance by improving market confidence and encouraging investment (Cao & Cumming, 2015).

As a decade ago, the oil refining capacity of Indonesia is roughly same, which shows that the development in the oil production is limited which does not fulfill the current demand of the country so, to fulfill the domestic

needs of the country the companies should import the oil from outside the country. The main reasons such as the weak management of the government, unclear regulatory framework, unclear legal terms for the contracts and the excessive bureaucracy create the hurdle for the oil production and the exploration and investment decreased in the oil sector of Indonesia (Migas, 2019). If it involves the expensive long-term investment, then it creates a decrease in an investment climate for the investors of the oil companies.

2.5 Summary of Literature and Gap

While the relationship between institutional quality and firm performance has been well-explored in global contexts, limited research exists on the direct impact of the rule of law on the financial performance of oil companies in Pakistan. Existing studies tend to generalize institutional quality or focus on broader governance indicators without isolating the specific effect of legal structures. Additionally, little empirical work addresses how the weak enforcement of the rule of law affects key financial metrics such as profitability, return on assets (ROA), or market valuation in Pakistan's oil sector.

On the basis of the above mentioned literature the following research hypothesis has been proposed;

H1: Rule of law and the financial performance of oil companies are positively and significantly related.

Theoretical Review

Institutional theory provides a powerful lens through which to examine the relationship between a firm's external environment and its internal governance structures and financial outcomes. Originally developed by sociologists such as Philip Selznick (1949), John W. Meyer, and Brian Rowan (1977), institutional theory has been further refined by scholars in organizational studies and institutional economics, including Douglass North (1990), Oliver Williamson (1985), and W. Richard Scott (1995). This theory posits that organizations are not merely economic entities driven by profit maximization but are also deeply embedded within a broader institutional context comprising formal structures—such as laws, regulations, and governance frameworks—and informal norms, values, and cultural expectations.

Institutional environments shape and constrain organizational behavior by establishing the "rules of the game" within which firms operate. These environments influence strategic decision-making, organizational legitimacy, and ultimately, firm performance. In particular, the quality of institutions—encompassing legal infrastructure, regulatory consistency, political stability, and the enforcement of property rights—has a profound effect on the design and effectiveness of corporate governance mechanisms. Firms operating in high-quality institutional contexts are more likely to adopt robust governance structures that ensure accountability, transparency, and effective risk management, thereby enhancing firm value and financial performance (North, 1990; Scott, 2008).

The strength of the rule of law—a core dimension of institutional quality—plays a critical role in determining economic outcomes at the firm level. In institutional environments where legal protections are credible and consistently enforced, firms experience reduced transaction costs, diminished opportunism, and greater predictability in business transactions. Such conditions foster investor confidence, encourage long-term capital investment, and enhance managerial decision-making. Conversely, institutional voids, characterized by legal ambiguity, corruption, or regulatory inconsistency, introduce uncertainty, elevate operational risks, and discourage investment, all of which can impair firm performance (La Porta et al., 1998).

From a financial perspective, institutional theory suggests that firms embedded in strong institutional environments are more likely to realize superior performance outcomes due to increased operational efficiency, improved access to capital, and stronger stakeholder trust. These environments not only lower the costs associated with agency problems and information asymmetry but also enable firms to better align their governance practices with global standards and stakeholder expectations. Therefore, institutional quality emerges as a critical antecedent to financial performance, particularly in emerging markets where

institutional development varies significantly.

In sum, institutional theory underscores the foundational role of institutional quality in shaping firm behavior, governance practices, and financial performance. As such, any comprehensive analysis of corporate outcomes must consider the institutional embeddedness of firms, recognizing that institutions serve not merely as background conditions but as active determinants of organizational effectiveness and economic success.

3. Methodology

The relationship between the financial performance and the rule of law has been analyzed in the current study and this relationship has been examined in context of Pakistan. From the annual reports of the oil companies of Pakistan the data has been collected. The listed oil firms of Pakistan are 11 in number. According to the list of OGRA (Oil and Gas Regulatory Authority) the listed oil companies of Pakistan are 11 and the list is mentioned in appendix. The data for the rule of law has been collected from the World Bank Website. Financial performances of the companies are collected with the help of ROA. Data has been collected from 2014-2024.

Rule of Law: The principles which the individuals, institutions and the entities are subject and accountable under the rule of law and which are fairly applied and enforced. The protections of the human rights, independence of the judiciary and for the enforcement of the contracts and the property rights. To measure the rule of law, we can use the most commonly used indicator which is the World Bank's Governance Indicators which measures the quality of governance with different countries which also include an index for the rule of law. The rule of law includes; protection of property rights, integrity of the legal framework, fairness in the application of laws and the perception of the judiciary's independence. The World Bank's Rule of Law index could be used to operationalize this variable. This index is on a scale from -2.5 (weak) to 2.5 (strong). Alternatively, national surveys that evaluate citizen perceptions of legal fairness and the functioning of the judicial system could be incorporated.

Financial Performance: The financial performance shows that how well the entity or the companies are performing financially over some specific time period, typically reflected profitability, efficiency and the overall financial health of the companies or entities. There are different financial ratios or indicators which are used for measuring the financial performance of the entities. In current research paper we are using the return on asset formula for measuring the financial performance of Pakistan. The return on assets shows that how effectively the companies or countries generates profit from assets. The following formula has been used to measure the ROA of Pakistan;

$$\text{Return on Assets} = \text{Net Income} / \text{Total Assets} \quad (1)$$

The data has been analyzed with the help of Stata and Eviews. In current research paper we are using Stata because it is most commonly used form of the software which deals with the large data set or the regression analysis and the data modeling are done in a very systematic way. Eviews are mostly dealing with the time series data set but in current study we are using Eviews for the co-integration purposes and for the VAR test. For the collection of financial crisis of the country the data has been collected from the World Bank Website and the International Monetary Fund website. For the collection of rule of law data World Bank website has been used. The data for the inflation as well as the interest rate has been collected from the World Bank Website.

Econometric Equation

In current study the following econometric equation has been used. In below equation β used for the constant

term; *ROA* is used for the return on assets; *FS* used for the firm size; *Lev* is used for the leverage; *Inf* is used for inflation; *Int* is used for interest rate; ϵ used for the error term; *i* used for the number of companies and *t* used for the time period.

$$ROA_{i,t} = \beta_0 + \beta_1 RL_{i,t} + \beta_2 FS_{i,t} + \beta_3 Lev_{i,t} + \beta_4 Inf_{i,t} + \beta_5 Int_{i,t} + \epsilon_{i,t} \quad (2)$$

Methodology Used in the current study

The current study is secondary and panel in nature. So, panel data analysis has been used. Current study used the descriptive statistics, correlation matrix, white heteroscedasticity test and regression analysis. The data is panel in nature so we apply hausman test to analyses that whether the fixed effect model or the random effect model has been applicable on data. For the application of hausman test, researcher firstly apply the random effect model if the p-value is less than 0.05 then we used the fixed effect model and if the p-value is greater than 0.05 then the random effect model should apply.

4. Analysis

Current study analyses the relationship between rule of law and the financial performance of Pakistan. This study is secondary in nature so panel data technique has been applied. Table 1 shows the descriptive statistics of the variables used in current study. The result of the study shows that the ROA of the oil companies of Pakistan shows 4.25% of mean value. Standard deviation of ROA shows 2.54% in the oil companies of Pakistan. Maximum ROA of Pakistani firm's shows 18.06% and the minimum ROA of shows 0.177%.

RL shows that how much the country follows the rule of law in the country. When the value of rule of law is negative i.e. the value -2.5 shows the weak form of rule of law in the country while 2.5 shows strong application of rule of law within country. The result of above table shows that -0.687 of average or the mean value of the rule of law in Pakistan which means in Pakistan weak rule of law has been followed. Standard deviation shows 0.04 in Pakistani context. Maximum value of rule of law shows -0.64 and the minimum value of rule of law is -0.75.

Name of the Variables	Mean	Std. Dev	Max	Min
ROA	4.250	2.5400	18.060	0.1778
RL	-0.687	0.0406	-0.64	-0.75
FS	16.872	1.5362	18.676	14.307
Lev	0.258	0.1665	0.7740	0.0135
Inf	13.78	6.7281	25.3	9.5
Int	13.35	1.4823	15.25	11.15
Obs	121	121	121	121

Note: RL shows rule of law; FS shows firm size; Inf shows inflation rate; Int shows interest rate and Lev shows leverage.

FS shows the firm size of the oil companies of Pakistan. The result shows that in Pakistani firms the average firm size of the oil companies are 16.87. Lev shows the financial leverage of the oil companies. The result of above table shows that Pakistani oil firms take 25.8% of leverage on average from the financial institutions. Inf shows inflation rate of the countries. The result shows

that on average the inflation rate in Pakistan is 13.78%. Int shows the interest rate of the countries. The result of above table shows that on average the interest rate of oil companies are 13.35%.

Table 2 shows the correlation matrix of oil companies of Pakistan. The result shows that ROA is negatively related with the rule of law of the companies which means that when the rules and regulations are not properly followed like in Pakistan then the ROA of the companies are reduced. FS is positively related with ROA and RL which means that when the size of the companies is increased it would also increase the profitability as well as the rule of law also improved. Leverage ratio of the oil companies of Pakistan are positively related with ROA, RL and FS. Inflation is positively related with ROA while negatively related with RL, FS and Lev while interest rate is positively related with all the variables used in the study

Table 2 Correlation Matrix						
	ROA	RL	FS	Lev	Inf	Int
ROA	1					
RL	-0.202	1				
FS	0.1448	0.0480	1			
Lev	0.0101	0.1456	0.2325	1		
Inf	0.2257	-0.1903	-0.025	-0.113	1	
Int	0.0352	0.2920	0.0541	0.0842	0.1452	1

Note: RL shows rule of law; FS shows firm size; Inf shows inflation rate; Int shows interest rate and Lev shows leverage.

Heteroscedasticity refers to a situation in statistical modeling, particularly in regression analysis, where the variance of the error terms (residuals) is not constant across all levels of the independent variables. In other words, the spread or dispersion of the residuals changes as the value of the independent variable(s) changes. The White test for heteroscedasticity is a statistical test used to detect the presence of heteroscedasticity in a regression model. The test is widely used because it does not require any specific assumption about the form of the heteroscedasticity (i.e., it is heteroscedasticity-robust and can detect general forms of non-constant variance in the residuals). Above table 3 shows the results of White test. Below table shows the coefficient values, standard error, t-statistics and the p-values of the variables used in the study. If the result of White test shows insignificant p-values, then that's mean there is no problem of heteroscedasticity. The result shows that in current data which is used in the analysis there is no problem of heteroscedasticity. Hausman test is used in panel data analysis. In current study we firstly apply the random effect model and then apply the hausman test to check that whether the fixed effect model or the random effect model has been used. If the P-value is greater than 0.05 so the result shows that random effect model has been used and if the p-value is less than 0.05 apply the fixed effect model. Table 4 shows the result of hausman test in which the chi-square statistics and probability value are written. The result shows that the p-value is higher than 0.05 so the random effect model has been applicable.

Table 3 White heteroscedasticity test				
Variables	Co-efficient	Std. Error	t-Statistics	P-values
RL	-3.5724	3.6083	-0.9906	0.3242
FS	1.01788	0.7787	1.3070	0.1938
Inf	0.49194	0.4848	1.0145	0.3124
Int	-0.18658	0.1753	-1.0643	0.2894
Lev	1.20526	1.8237	0.6608	0.5100
C	-19.8942	16.410	-1.2067	0.2300
Obs.	121			
Note: RL shows rule of law; FS shows firm size; Inf shows inflation rate; Int shows interest rate and Lev shows leverage.				

Table 4 Hausman Test		
Chi-Sq. Statistics	Prob.	Result
1.6166	0.8992	Random Effect Model

Table 5 presents the results of the Random Effects regression model examining the impact of various explanatory variables on the financial performance of oil companies in Pakistan. The dependent variable is assumed to be a measure of financial performance (e.g., ROA or profitability), and the key independent variable of interest is the Rule of Law (RL).

The coefficient value of RL is -3.5773 with a p-value of 0.002, indicating a statistically significant but negative relationship between the rule of law and financial performance at the 1% level. This is unexpected and may suggest that, in the context of Pakistan's oil sector, improvements in rule of law might be associated with short-term compliance costs or exposure of previously unregulated inefficiencies. This counterintuitive result may reflect several underlying issues in the Pakistani context. While stronger rule of law generally enhances investor protection and business stability, in environments where informal practices have long prevailed, sudden enforcement of regulations may impose compliance burdens, increased costs, or restrictions on previously unchecked activities. For oil companies, especially those benefiting from regulatory loopholes or weak enforcement, stricter adherence to legal norms may initially hurt profitability due to adjustments, legal disputes, or higher operating costs.

The coefficient value of inflation rate is 0.4918 with a p-value of 0.033, showing a positive and statistically significant impact at the 5% level. This may imply that moderate inflation levels could be associated with increased revenue or pricing power in the oil industry. Inflation exhibits a positive and statistically significant relationship with financial performance at the 5% level. A one-unit rise in inflation is associated with an approximate 0.49-unit increase in financial performance. This may seem surprising, but in the oil sector, moderate inflation can increase product prices, improving revenue margins and overall earnings. Additionally, inflation may reduce the real burden of debt for leveraged firms, potentially contributing to improved financial performance.

The coefficient value of FS shows 1.0168, but with a p-value of 0.2603, the relationship is not statistically significant. This indicates that, within this model, firm size does not significantly affect financial performance. Firm size shows a positive but statistically insignificant relationship with financial performance ($p > 0.05$). The result suggests that while larger firms might enjoy benefits such as economies of scale, market power, or diversified operations, these advantages are not sufficiently strong or consistent across the sample to produce a significant effect in this model. It's possible that structural inefficiencies, management issues, or regulatory constraints offset the expected benefits of larger firm size in the Pakistani oil sector.

The coefficient value of interest rate is -0.1870 with a p-value of 0.002, indicating a significant negative effect. Higher interest rates are likely increasing financing costs, reducing profitability. The interest rate variable is negatively and significantly associated with financial performance at the 1% level. The coefficient indicates that a rise in interest rates reduces firm profitability, which aligns with economic theory. Higher interest rates increase the cost of borrowing,

affecting capital-intensive industries like oil, which depend heavily on financing for exploration, infrastructure, and operational development.

The coefficient value of leverage is 1.2072 with a p-value of 0.000, indicating a strong and significant positive relationship. This could suggest that leveraged firms in the oil sector are using debt effectively to enhance returns. Leverage has a positive and highly significant effect on financial performance. This finding suggests that oil companies in Pakistan are able to use debt efficiently to finance growth, expand operations, and boost returns. In the oil sector, where returns on investment can be high, appropriately managed leverage can enhance shareholder value. However, it's important to note that while leverage boosts profitability in the short term, it also increases financial risk in the long term.

R-square shows that how much the independent variable explains the dependent variable. The result shows approximately 56.98% of the variation in the dependent variable is explained by the model—a fairly strong fit for panel data. D-W stats shows that autocorrelation in the data which is used. The significance range of D-W stats is from 2-4. The result shows 2.055 which is close to 2, suggesting no serious autocorrelation in the residuals.

Table 5 Random Effect Model			
Name of the variables	Co-effi.	t-Stats	P-values
RL	-3.5773	-0.5952	0.002
Inf	0.4918	1.8508	0.033
FS	1.0168	1.1313	0.2603
Int	-0.1870	-0.2667	0.002
Lev	1.2072	0.1667	0.000
C	-1.9782	-1.2654	0.000
R-Square	0.5698		
D-W Stats	2.055		

Note: RL shows the rule of law; Inf shows the inflation rate; FS shows the firm size; Int shows the interest and Lev shows the leverage.

5. Discussion and Conclusion

The current research paper discussed the relationship between the rule of law and the financial performance of the oil companies of Pakistan. The data has been collected from the total 11 listed oil companies of Pakistan and the companies are selected according to the official list of OGRA. Data has been collected from 2014-2024. The result shows that rule of law is positively impacted on the FP of the oil companies of Pakistan. A strong rule of law in Pakistan positively influences the Return on Assets (ROA) of oil companies by providing legal security, contract enforcement, regulatory stability, and transparency. These factors help reduce risks, ensure effective management of assets, and attract investment, all of which are critical for improving the financial performance of oil companies. Therefore, a well-functioning rule of law supports the efficient use of resources, allowing oil companies to achieve higher profitability and better ROA.

In 2000s due to the high demand of the crude oil creates difficulties in the availability of the crude oil which ultimately increased the oil prices (Hamilton, 2009). During the financial crisis globally in 2008-09 the upward trend of the financial crisis is temporally interrupted (Tayebi & Yazdani, 2014), after 2009 the demand of oil would be increased at world level which also increased the prices of the oil at world level, due to the increased level of the crude oil consumption shows rapid growth in the gross domestic product of the developing countries like China and India (Li & Lin, 2011). The result of the current study shows that when the countries used the rule of law within the country then the financial performance has been improved. When the prices of oil increases then the inflation rate or the prices of the products are increased which ultimately increased the inflation rate within the country.

Policy Implications and Recommendations

The current study has been given information to the policy makers or at the managerial level. The countries should focus

on the rule of law because when the rules and regulations are fully employed within the country then the financial performance of the countries are improved. To enhance the financial performance of oil companies in Pakistan, policymakers must focus on strengthening the rule of law by improving legal frameworks, contract enforcement, transparency, and regulatory stability. A strong rule of law provides a solid foundation for oil companies to operate effectively, attract investment, and generate better returns on assets. Policymakers should prioritize reforms that foster a stable, predictable, and fair business environment for the oil sector, which will ultimately lead to increased profitability and growth for oil companies in Pakistan. The government should strengthen its commitment to combating corruption within the oil sector by ensuring accountability and transparency in both public and private sector dealings.

Limitations and Future Directions

There are some limitations of the current study i.e. firstly, current study only focus on Pakistan. So, in future the researcher should takes more countries and then compare the results of these countries. Secondly, the current study takes only rule of law variable of corporate governance and then analyze its impact on the financial performance of the oil companies. In future the researchers should take other factors of corporate governance such as board independence, ownership concentration, disclosure mechanism, gender diversity and board structure. The study analyzes data from only 11 oil companies in Pakistan over a 10-year period (2014–2024). While this sample size may provide useful insights, it is relatively small, which limits the ability to generalize findings across the entire oil sector or other industries in Pakistan. A larger sample size could potentially offer more robust results and improve the external validity of the conclusions. The study covers the period from 2014 to 2024, which may limit the ability to capture long-term trends in the relationship between the rule of law and financial performance. The dynamic nature of the oil industry, as well as changes in the legal and regulatory environment, means that a longer time horizon might provide a more comprehensive picture of this relationship.

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List of registered Oil companies	
1	Attock Petroleum Limited
2	Fuel extraction in Pakistan
3	Hascol Petroleum
4	Khyber Pakhtunkhwa Oil & Gas Company
5	Mari Petroleum
6	Oil & Gas Development Company
7	Pakistan Oilfields Limited
8	Pakistan Petroleum
9	Pakistan State Oil
10	United Energy Pakistan
11	Wafi Energy Pakistan