

How Does Corporate Governance Shape Investment Efficiency through Quality Financial Reporting in Pakistan

Arshad Javed^{1*}, Younas Iqbal Qazi².

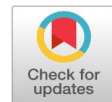
¹PhD Scholar, Department of Management Sciences, Preston University Islamabad Campus,
Islamabad, Pakistan.

²Associate Professor, Department of Management Sciences, Preston University Islamabad Campus,
Islamabad, Pakistan.

Abstract: With a focus on the mediating function of financial reporting quality (FRQ), this study investigates how corporate governance (CG) shapes investment efficiency (IE) of nonfinancial enterprises listed on the Pakistan Stock Exchange (PSX) from 2013 to 2023. Effective CG practices greatly improve IE, according to a study using a sample of 200 enterprises and strong hypothesis testing with the Generalized Method of Moments (GMM) that addresses the issue of endogeneity and unabsorbed heterogeneity. Additionally, the study shows that accurate and transparent financial reporting is crucial for making the best investment decisions and that first-class reporting of financial information plays a crucial mediating role in this relationship. Control factors such as business size, leverage, firm age, and financial slack are incorporated into the research to guarantee thorough results. The findings broaden our understanding by illustrating how FRQ plays a mediating function in the relationship between CG and IE and how CG and FRQ cooperate to enhance IE. CG significantly affects FRQ, and FRQ affects IE. Studies offer useful advice for corporate managers and policymakers.

Keywords: Corporate Governance, Financial Reporting Quality, Investment Efficiency PSX, GMM

Received: 05 August 2024 / Accepted: 15 September 2024 / Published: 10 October 2024



INTRODUCTION

Because of its significant influence on firm value, business investment is a basic problem in the literature. The sole factor influencing corporate investment is the firms' investment prospects. Nonetheless, a variety of market frictions, including agency costs and information asymmetry, can cause companies to make investments that are not responsive to opportunities and that result in less-than-ideal investments (Bevir, 2012; Jensen, 1986; Shleifer & Vishny, 1997). There are two categories of inefficient investment: underinvestment, which occurs when a firm lacks the funds to money investments with an optimistic net present value, and overinvestment, which occurs when a firm invests in projects with a negative net present value (Berkovitch & Kim, 1990; Bevir, 2012; Liu et al., 2022). Previous research by Biddle and Hilary (2006); Biddle et al. (2009); Boubaker et al. (2018); Houcine (2017); Houcine et al. (2022); Stein (2003) demonstrates that the best corporate investment decisions are made when financial reports are of high quality. According to the authors' documentation, a rich informational environment reduces under- and overinvestment problems and mitigates market frictions, improving capital allocation efficiency. This research delves into the realm of Pakistani enterprises to examine the link between CG and investment performance. How the dependable and understandable worth of financial reports fits into this scheme is of special relevance to us. See it as a way to unlock the secret sauce of prosperous Pakistani businesses, including how sound financial reporting is essential to the operation of these businesses and how effective governance shapes wise investment decisions.

The policies, procedures, and practices that guide a company's operations and management are called CG. Optimizing shareholder value and ensuring efficient and successful operations are the goals of good CG (Alodat et al., 2022). Lower agency costs and risks and higher investment and financial performance economically support strong

*Corresponding author: Arshad Javed

†Email: arshad.javed.pcc@gmail.com

CG. CG affects economic outcomes by aligning managers' and shareholders' incentives (Wahyudin & Solikhah, 2017). This alignment can be facilitated by systems such as independent board directors and performance-based remuneration. Providing reliable and transparent financial information is another strategy to reduce knowledge gaps between investors and management (Barth & Schipper, 2008). Even with the obvious advantages of sound CG, putting these principles into reality can still be difficult. Among these difficulties are problems with ownership strength, interest clash, and the difficulty of gauging and overseeing governance processes (Okpara, 2011).

The productivity and efficacy of an organization's capital allocation and investment choices are called investment efficiency (Chen et al., 2011). It has to do with an organization's capacity to allocate its capital in a way that optimizes profits and raises general performance. A highly investment-efficient organization can deploy cash to projects, assets, or initiatives smartly and informally. The primary determinants of investment decision and efficiency are the budgetary constraints and the effectiveness of internal governance (McNichols & Stubben, 2008). Overinvestment and underinvestment are the two types of wasteful investment practices for businesses. The researchers utilize the principal-agent theory and the theory of finance restrictions to explain why there is this kind of inefficiency (Wang et al., 2023). According to the principal-agent theory, managers overinvest because they are obsessed with scale over efficiency, a practice known as "empire-building," which allows them to control more resources and further their interests (Jenson & Meckling, 1976). An organization's division of control and cash flow rights allows managers to profit personally from fresh investments. Managers invest in these projects even when the net present value (NPV) is negative since there is enough free cash flow. However, managers may choose not to pursue certain positive net present value investment initiatives if they incur private expenses (Kudratova et al., 2020). Managers will underinvest because they generally prefer to work less (i.e., like to shirk), while investing requires them to spend more time supervising the firm's activities.

The dependability, precision, and transparency of a business's financial data in its financial statements are referred to as FRQ (Rashid, 2020). It indicates how accurately the company's financial performance, position, and cash flows are represented in financial reports in compliance with accounting rules and laws (Hasan et al., 2022; Houcine, 2017; Houcine et al., 2022; Javed et al., 2023). This research adds to the body of information on IE by using FRQ as a mediator between CG and IE and proving a significant relation between CG and IE through FRQ. Our study offers some significant findings: firstly, it offers empirical proof that FRQ enhances enterprises' "investment efficiency." Secondly, the study could be interpreted as a review of the limitations on the significance of accounting data in this situation and underscores the significance of CG in reducing conflicts of interest and guaranteeing the effectiveness of corporate investment. Thirdly, this study adds to the body of knowledge by showing that when CG is robust, profit quality has a greater influence on improving IE.

LITERATURE REVIEW

CG and IE

The financial literature by Armstrong et al. (2010); Jenson and Meckling (1976); Larcker and Tayan (2020) highlights the critical role that CG plays in resolving agency issues and its effect on the effectiveness of corporate investment. CG is among the most pervasive and significant variables influencing organizations' efficient investments (Stein, 2003). A substantial amount of research indicates that improved corporate governance practices enhance the effectiveness of investments. Chen and Lin (2012) show that more effective investment allocation processes are found in diverse organizations with strong shareholder rights, high audit equity, high institutional proprietorship, high outside director ownership, high board independence, low board busyness, high CEO equity-based remuneration, and high audit equity.

Kanagaretnam et al. (2007) found that firms with better governance make more effective investment decisions because they disclose information more effectively, have less asymmetric knowledge, and have fewer agency problems. Conversely, companies with weaker governance are linked to underinvestment issues, indicating that stronger governance reduces underinvestment. Excellent governance reduces overinvestment in organizations with higher potential, but badly managed companies are associated with overinvestment (García-Sánchez et al., 2020). It was shown by Biddle et al. (2009) that CG raises (decreases) investment and does not lower IE, irrespective of a firm's inclination to overinvest or underinvest. Chen et al. (2017) use monitoring to examine how China's governance systems impact investment efficiency. Institutional investors and incentive-based compensation have a

positive impact on IE. However, the authors claim that ownership strength has a negative effect.

The investments that businesses make are influenced by their ownership structure. Investment efficiency is impacted by ownership structure (managerial and institutional ownership) since it influences managerial decisions (Moradi et al., 2022). Institutional ownership is one of the most significant elements of a company's ownership structure, which impacts investment profitability. The percentage of a company's accessible shares held by endowments, mutual or pension funds, insurance companies, investment firms, private foundations, or other sizable organizations that oversee other people's assets is known as institutional ownership (Bushee, 1998). Institutional shareholders can obtain information more quickly than non-founding shareholders. Founder shareholders have more control over cash inflow and outflow, strengthening their voting rights because they cannot affect the share price. However, this may also result from agency issues arising from the lack of legal protection for minority shareholders (Enriques et al., 2017). Because of their capacity to inform shareholders and efficiently track organizational performance—reflected in the company's financial performance and promotes more efficiency—they can keep an eye on the senior management of the enterprise. Through supervision, institutional owners play a vital part in reducing agency costs. The institutional owners choose the board of directors, exercise administrative control, and improve the company's financial results to achieve their goals. Institutional owners play a big part on the board by voting on important issues that benefit the business and refraining from making judgments that could compromise the company's worth. Investment decisions will thus most likely be influenced by this ownership (Larcker & Tayan, 2020).

CG and FRQ

Institutional owners are major players in financial markets in sophisticated jurisdictions worldwide. IO fund investing has gained popularity in the past few years. Because this kind of investment offers a degree of diversification that is hard to duplicate through indirect investing, it is attractive to private and institutional investors. It also provides private investors wide market access because certain securities offerings are restricted to institutional investors (Chemmanur et al., 2021). They are more affordable because they operate on a bigger scale and benefit from economies of scale in dealing with custody and transfer of securities. They also deal with the typical liquidity problem in markets where ownership is concentrated. Most wealthy countries now have more institutional shareholders than they did a few years ago. Because institutional investors have been company partners for a long time, many new institutions have entered the market and are now the primary owners of firms. Two types are mutual funds and pension funds (Matos, 2020).

Managers who own stock in the company directly influence corporate behavior due to their managerial and decision-making roles. Management ownership reduces agency costs by providing an incentive to align the interests of the owner-manager and other shareholders (Jensen & Meckling, 2019). Since the owners and managers are the same individuals, they are less likely to hoard their wealth (Demsetz, 1983). The owner-manager will also have a better understanding of the company's future. This will encourage managers to boost output and minimize knowledge asymmetry. The manager's share is a useful tool for reducing agency conflicts and coordinating the interests of managers and shareholders (Anderson, 1977). Managers are less inclined to carry out their responsibilities if management owns fewer shares than the entire number of shares on behalf of the shareholders' equity in the company. Increasing managerial ownership can improve financial reporting quality, reduce managerial manipulation, and improve financial performance through improved investment positioning (Shahzad et al., 2019).

FRQ and IE

The link between FRQ and investment decisions has recently been the subject of numerous research studies (Assad & Alshurideh, 2020; Biddle et al., 2009; Houcine, 2017; Shahzad et al., 2019). These studies express that FRQ greatly impacts investment decisions from an economic standpoint. When managers avoid investing in negative net present value (NPV) projects and instead make positive NPV project investments, it is referred to as investor avoidance (IE) (Biddle et al., 2009). Under-investment is not investing in positive NPV projects, while over-investment is a negative NPV project investment (Verdi, 2006). Moral hazard and adverse selection may give egotistical managers the chance and motivation to pursue their own goals, which could lead to an excessive or insufficient investment in the company. Ultimately, the expense of such managerial actions would fall on shareholders (Biddle et al., 2009; Verdi, 2006).

By reducing asymmetric information, increased FRQ is taken into account by the firm's agency theory to lessen the problem of over- and underinvestment. According to earlier research, improved FRQ may alleviate the over- and under-investment conundrum in three distinct ways (McNichols & Stubben, 2008; Uwuigbe et al., 2018; Verdi, 2006). First, increased FRQ facilitates potential investors' selection of the best stocks by making comparing financial data from companies simpler if it is not falsified.

Mediating Role of FRQ

Little research has been done on how FRQ influences the relationship between IE and corporate governance. Nonetheless, a few studies Hammood and Dammak (2023); Iqbal et al. (2022); QAWQZEH et al. (2021) have alluded to the significance of FRQ as a mediator in augmenting the influence of governance measures on business performance. Even though the body of research on CG, FRQ, and IE is quite useful, it is unclear how FRQ influences investors' investment decisions, particularly in Pakistani companies. By analyzing the complex relationships between these variables and adding to the expanding corpus of information on CG and financial reporting in emerging markets, this study seeks to close this knowledge gap.

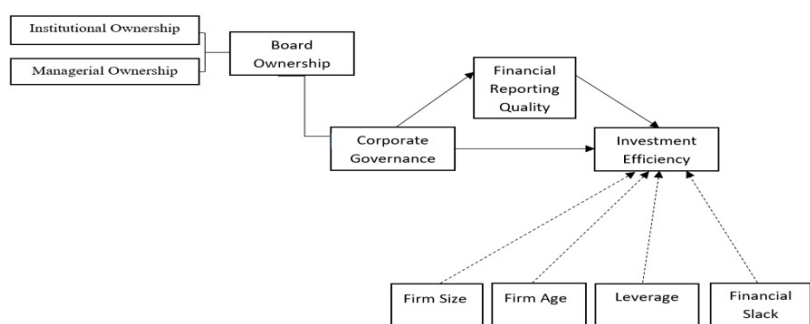


Figure 1: Research model

H4: FRQ mediates between CG and IE.

EMPIRICAL MODELS

Observed Models

The models that follow will evaluate our study's hypothesis.

$$\text{InvEff } f_{i,t} = \beta_0 + \beta_1 CG_{i,t} + \sum_{i=2}^n (\beta_i) \text{ Control} + \varepsilon_{i,t} \dots (1)$$

$$\text{InvEff } f_{i,t} = \beta_0 + \beta_1 FRQ_{i,t} + \beta_n X_{i,t,t-1} + \varepsilon_{i,t} \dots (2)$$

$$\text{InvEff } f_{i,t} = \beta_0 + \beta_1 CG_{i,t} + \beta_2 FRQ_{i,t} + \sum_{i=3}^n (\beta_i) \text{ Control} + \varepsilon_{i,t} \dots (3)$$

The control variables in the abovementioned models are the firm's age, size, financial slack, and leverage.

METHODOLOGY OF THE RESEARCH

Research Design

For empirical studies in this research, we take into account companies that are listed on the PSX. All publicly nonfinancial sector firms trading in PSX over the previous 11 years are included in the sample, except banking companies. There are two reasons why financial institutions like banks, insurance, mutual funds, and pension funds are erased. First, compared to nonfinancial enterprises, financial firms have completely distinct investment modes (Biddle et al., 2009). For instance, the main investment made by nonfinancial businesses is capital expenditures, while the main investment made by finance corporations is consumer and industrial loans. Second, the central bank and other regulatory agencies regulate financing companies. According to Prowse (1990), rules would affect financial companies' shareholding and investment choice patterns. We have decided to conduct our research between 2013 and 2023. Because 200 public companies listed on the PSX were chosen between 2013 and 2023, the sample size for each variable is 2200 firm years. Annual reports are searched for information particular to the firm and CG. Due to the required level of analysis and the availability of pertinent data, the time horizon of this study is eleven years longitudinal cross-sectional.

Population

The study population will be 545 firms listed in PSX. All the firms between 2013-2023 listed on the Pakistan stock exchange are the population of the study.

Operationalization of Variables

This study will use three variables: CG, IE, and FRQ. Following are the operational definitions and proxies of these variables.

Investment Efficiency : This research estimates IE as how much deviation from projected investment by using the model in terms of growth opportunities proposed by (Biddle et al., 2009). Here, the firm-specific proxy of efficiency is the residual of regression.

$$\text{Invest}_{i,t} = \beta_0 + \beta_1 \text{Sale Growth}_{i,t-1} + \varepsilon_{i,t} \dots \dots (4)$$

In this case Sale Growth $_{i,t-1}$ Refers to the total capital outlay for fixed asset purchases, exclusive of fixed tangible asset sales. In contrast, Sale Growth $_{i,t-1}$ denotes a shift in the sale. The residual value is denoted as $\varepsilon_{i,t}$ evaluates how much the firms deviate from the predicted investment. This sum will be determined for every company based on their industry.

Corporate governance : The Corporate Governance Index (CGI) will be built using Principal Component Analysis (PCA). CGI will consist of an ownership structure (managerial ownership and institutional ownership) (Chemmanur et al., 2021; Moradi et al., 2022). The PCA uses an approach to reduce data that creates one or more index variables from a more extensive set of quantified variables to reduce data. It is a weighted average set of variables. The index variables that PCA creates are called components.

$$\text{CSFG}_{i,t} = \Sigma (w_1 \text{MANO}_{i,t} + w_2 \text{INSO}_{i,t}) \dots \dots (5)$$

Financial reporting quality : Three commonly used accounting approximations for FRQ in previous research by Boubaker et al. (2018) and are employed in this work. These metrics pertain to accruals quality and are predicated on the notion that "earnings will be more predictive of future cash flows when there is lower estimation error embedded in the accruals process." Accruals are estimators of future cash flow.

As mentioned above, Kothari et al. (2005) presented a performance-matched accrual model that several researchers followed.

$$\text{TAccr}_{i,t} = \beta_0 + \beta_1 \left[\frac{1}{\text{Assets}_{t-1}} \right] + \beta_2 \Delta \text{Rev}_{i,t} + \beta_3 \text{PPE}_{i,t} + \beta_4 \text{ROA}_{i,t} + \varepsilon_{i,t} \dots \dots (6)$$

Here TAccr $_{i,t}$ is total accrual, $\Delta \text{Rev}_{i,t}$ denotes a change in revenues, $\text{PPE}_{i,t}$ represent the value of all fixed assets, $\text{ROA}_{i,t}$ is representing a return on assets and $\varepsilon_{i,t}$ is for discretionary accruals.

Discretionary revenue is the second proxy to measure FRQ (McNichols & Stubben, 2008).

$$\Delta \text{AR} = \beta_0 + \beta_1 \Delta \text{Rev}_{i,t} + \varepsilon_{i,t} \dots \dots (7)$$

$\Delta \text{Rev}_{i,t}$ denotes the change in revenues, ΔAR indicates a change in receivables, and $\varepsilon_{i,t}$ is for discretionary revenues. Lagged total assets are used to deflate all phrases. The residuals capture the discretionary revenues for equation (2). Applying the same process as the previous model, FRQ equals the residuals' absolute value times (-1). Consequently, a greater value indicates a higher FR.

The third proxy of FRQ is accrual quality (Boubaker et al., 2018; Houcine, 2017). This measure relies on the idea based on cash flow relation with earnings.

$$\text{TAccr}_{i,t} = \beta_0 + \beta_1 \text{CFO}_{i,t-1} + \beta_2 \text{CFO}_{i,t} + \beta_3 \text{CFO}_{i,t+1} + \beta_4 \Delta \text{Rev}_{i,t} + \beta_5 \text{PPE}_{i,t} + \varepsilon_{i,t} \dots \dots (8)$$

Here TAccr $_{i,t}$ is the total accrual of the current period, $\text{CFO}_{i,t-1}$, $\text{CFO}_{i,t}$ and $\text{CFO}_{i,t+1}$ represents operational cash flow for t-1 and t+1 years. $\Delta \text{Rev}_{i,t}$ denotes a change in revenues and $\text{PPE}_{i,t}$ is the value of property, plant, and equipment. $\varepsilon_{i,t}$ is an error term. Comprising data from three distinct proxies for FRQ, the FRQ Index is a composite metric. These stand-ins come from Equations 6, 7, and 8, each representing a distinct financial reporting facet. The FRQ Index was developed to offer a more thorough and reliable evaluation of a company's overall financial reporting quality. The results of each of the three equations are averaged to determine the FRQ Index. It can be stated mathematically as follows:

$$\text{FRQ Index}_{i,t} = \frac{\text{TAccr}_{i,t} + \text{TAccr}_{i,t} + \Delta \text{Rev}_{i,t}}{3}$$

Control variables : Several other variables that could affect the investment decisions are included as control variables. As an illustration, Al Azeez et al. (2019) emphasize that firm size and tangibility are two effective monitoring mechanisms that restrain management's opportunistic conduct because larger organizations benefit from superior technology, greater diversification, and capable managers. Additionally, increased tangibility increases the

visibility of the firm’s assets. As such, it is difficult for management to invest too little or too much. Consequently, we account for firm size, firm age, leverage, and financial slack as control variables of the study.

Estimation Techniques

The study uses GMM to check the effect of the independent variable on the IE and check the mediation role of FRQ. This study addressed endogeneity and unobserved heterogeneity using a GMM to test the hypotheses (Asiri et al., 2020). Three steps are used to determine the mediation role of FRQ in the relationship between corporate governance and investment efficiency. Firstly, FRQ is the function of corporate governance. In the second step, IE is the function of FRQ, and in the third stage, IE is the function of corporate governance. Finally, the mediating role is checked (Zhao, 2010). If the coefficients are significant in all steps, then the mediating role of FRQ exists. This study uses STATA to analyze this secondary data from the available data analysis software.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
IE	2200	0.3112931	0.2830761	-2.4488	1.8108
BO	2200	0.0500379	0.088681	0	0.554669
FRQ	2200	84.500767	6.135691	-6.5681	177.4254
FS	2200	15.5574	1.708054	10.5912	20.4575
LEV	2200	0.5121967	0.1714408	0.1082	0.7894
SLACK	2200	0.5565054	0.2218892	0.0004	0.9994
FA	2200	3.455145	0.6905809	0.693147	7.608375

IE=Investment Efficiency, BO= Board Ownership, FRQ= Financial Reporting Quality, FS=Firm size, Lev=Leverage, FA=Firm Age, Slack= Financial Slack

Table 2: Correlation Analysis

Variables	IE	BO	FRQ	FS	LEV	SLACK	FA
IE	1						
BO	0.0227	1					
FRQ	-0.0646	0.0499	1				
FS	0.2492	0.0846	-0.1385	1			
LEV	-0.0417	0.0116	0.0578	0.0354	1		
SLACK	-0.0388	0.0557	0.0522	0.0647	0.0354	1	
FA	0.0245	-0.0121	0.0233	-0.1055	0.063	-0.0751	1

IE=Investment Efficiency, BO= Board Ownership, FRQ= Financial Reporting Quality, FS=Firm size, Lev=Leverage, FA=Firm Age, Slack= Financial Slack

Tables 1 and 2 show descriptive statistics and correlation, respectively. Although there is considerable fluctuation, the large range (from -2.4488 to 1.8108) reveals the enterprises’ average efficiency is generally positive. BO is generally modest, and its minimal standard deviation suggests that the board’s ownership interests vary very little. The large standard deviation and broad range of values in FRQ imply significant variability, indicating significant variation in financial reporting processes across different organizations. The descriptive statistics show the heterogeneous nature of the sampled organizations by indicating significant variability in important variables like FRQ and IE. Except for FS size, which has a somewhat positive association with IE, the correlation study indicates that while there are some links between IE and other variables, most correlations are weak. A high correlation (higher than 0.90) between the explanatory factors suggests a multi-co-linearity issue. Low correlations between our study’s explanatory and control factors indicate no substantial multicollinearity issue when all the variables are used for further analysis (Javed & Qazi, 2024).

Table 3: Path A

FRQ	Coefficient	Std. err	Z	P > Z	[95% Conf. Interval]	
FRQ L1	0.4278607	0.0033502	127.71	0	0.421294	0.434427
BO	0.3227455	0.0920498	3.51	0	0.142331	0.503159
FS	0.3013181	0.154171	19.54	0	0.271101	0.331535
LEV	-0.998036	0.0554474	-18	0	-1.10671	-0.88936
SLACK	7.645354	0.0767619	99.6	0	7.494903	7.795804
FA	0.5681416	0.0179527	31.65	0	0.532954	0.603328
_Cons	-15.37403	0.2741407	-56.08	0	-15.9113	-14.8367

IE=Investment Efficiency, BO= Board Ownership, FRQ= Financial Reporting Quality, FS=Firm size, Lev=Leverage, FA=Firm Age, Slack= Financial Slack

Table 4: Path B

IE	Coefficient	Std. err	Z	P > Z	[95% Conf. Interval]	
IE L1.	0.0128039	0.0000442	289.66	0	0.0127172	0.0128905
FRQ	0.0000682	0.0000006	34.41	0	0.0000643	0.0000721
FS	0.9910151	0.0000613	1.6	0	0.9908949	0.9911352
LEV	-0.0315813	0.00015	-210.51	0	-0.0318753	-0.031287
SLACK	-0.0057504	0.0001618	-34.22	0	-0.0060797	-0.005421
FA	0.0001316	0.000038	3.46	0	0.0000571	0.0002061
_Cons	-15.40051	0.0126658	-1215.91	0	-15.42534	-15.37569

IE=Investment Efficiency, BO= Board Ownership, FRQ= Financial Reporting Quality, FS=Firm size, Lev=Leverage, FA=Firm Age, Slack= Financial Slack

Table 5: Path C

IE	Coefficient	Std. err	Z	P > Z	[95% Conf. Interval]	
IE L1.	0.0120349	0.0003444	34.94	0	0.0113598	0.012709
BO	-0.0203491	0.002004	-10.15	0	-0.024276	-0.0164214
FS	0.9923842	0.0003749	2647.06	0	0.9916494	0.993119
LEV	-0.023021	0.0010336	-22.27	0.087	-0.0250477	-0.0209962
SLACK	-0.000837	0.0004166	-20.11	0.021	-0.0091955	-0.0075623
FA	-0.0000707	0.0002341	-0.3	0.076	-0.0005295	0.0003882
_Cons	-15.477777	0.0246541	-627.8	0	-15.52609	-15.42945

IE=Investment Efficiency, BO= Board Ownership, FRQ= Financial Reporting Quality, FS=Firm size, Lev=Leverage, FA=Firm Age, Slack= Financial Slack

Table 6: Mediation Role

IE	Coefficient	Std. err	Z	P > Z	[95% Conf. Interval]	
IE L1.	0.0120349	0.0001228	98.04	0	0.0117976	0.012789
BO	-0.005287	0.0001495	-35.37	0	-0.0055806	-0.0049947
FRQ	0.0002176	0.0000003	62.63	0	0.0002108	0.0002244
FS	0.9910891	0.0001052	9421.67	0	0.9908829	0.9912953
LEV	-0.0551808	0.0002924	-188.73	0	-0.0557539	-0.0546078
SLACK	-0.0059934	0.0003192	-18.78	0	-0.006619	-0.0053679
FA	-0.0010911	0.0001894	-5.76	0	-0.0014623	0.0007198
_Cons	-15.44998	0.0383904	-402.44	0	-15.52522	-15.37474

IE=Investment Efficiency, BO= Board Ownership, FRQ= Financial Reporting Quality, FS=Firm size, Lev=Leverage, FA=Firm Age, Slack= Financial Slack

RESULTS DISCUSSION AND ANALYSIS

This research study uses GMM for hypothesis testing as it examines the effect of corporate governance on the IE of Pakistani enterprises through FRQ. The study looks into how FRQ is a mediator between Pakistani companies' CG and IE. GMM tests hypotheses and presents findings in various ways to account for mediating and direct effects. The findings are displayed using various approaches and frameworks to identify direct and indirect impacts. Positive coefficients for FRQ in Path A demonstrate that improved FRQ greatly increases IE across all paths. In general, BO improves IE, but in Path C, BO unexpectedly has a negative effect, indicating possible agency conflicts. Overall, the findings demonstrate how important high-quality financial reporting is for improving investment efficiency, with various intricate effects coming from CG factors. A significant correlation of 0.3227 ($p < 0.000$) supports the study's findings, which show that corporate governance (CG) positively improves IE in Pakistani enterprises. Additionally, CG has a strong positive impact on FRQ (coefficient of 0.4279, $p < 0.000$), and FRQ has a favorable impact on IE (coefficient of 0.0000682, $p < 0.000$). The results of the mediation study show that FRQ partially mediates the relationship between CG and IE, as seen by the direct negative effect of CG on IE when FRQ is included (-0.005287, $p < 0.000$) and the considerable positive effect of FRQ on IE (0.0002176, $p < 0.000$).

The high Z-value (127.71) and significant positive coefficient (0.4278607) with a p-value of 0.000 suggest a robust and statistically significant positive correlation between lagged FRQ and IE. This implies that gains in the quality of financial reporting during the preceding period have a major positive impact on IE. Higher board ownership is thought to improve IE because it aligns board members' interests with the firm's long-term performance, according to the positive coefficient (0.3227455) and substantial Z-value (3.51). However, depending on governance frameworks, this link may differ throughout organizations. The substantial Z-value (19.54) and big positive coefficient (0.3013181) demonstrate that larger businesses typically make more effective investments, maybe due to better resource allocation and economies of scale. The significant negative Z-value (-18.00) and negative coefficient (-0.998036) suggest that more leverage harms IE. This is most likely a result of the corporation finding it more challenging to make prudent investments due to debt restrictions.

Prior research has emphasized the importance of FRQ and CG in determining IE in different settings. In Chinese companies, for example, research by Gupta et al. (2023) discovered a favorable correlation between IE and CG procedures, such as board independence and CEO duality. Similarly, research by Mahdi Sahi et al. (2022) highlighted the critical role that FRQ plays in improving IE, with investment decisions being positively impacted by transparent and trustworthy financial reporting. Furthermore, Asiedu and Mensah (2023) found that FRQ mediates the association between CG and business performance, implying that enhanced financial reporting standards and effective governance procedures indirectly impact IE. These results reinforce the need for more research in the Pakistani context by offering insightful information about how CG and FRQ contribute to IE.

CONCLUSION

This study investigates the relationship between Pakistani enterprises' IE and CG, particularly emphasizing the mediating function of FRQ. The study uses a variety of empirical models and estimate techniques, such as the GMM and 2SLS regression, and uses data from 200 nonfinancial enterprises listed on the PSX between 2012 and 2023. While correlation analysis shows weak connections between IE and other variables, indicating no serious multicollinearity issue, descriptive statistics show high variability in crucial variables like FRQ and IE. Hypothesis testing verifies that CG significantly and favorably affects both IE and FRQ. Additionally, a significant coefficient shows that FRQ favorably influences IE. Additionally, the study discovers that FRQ mediates the relationship between CG and IE to some extent, as shown by the significant coefficients in the mediation analysis.

IMPLICATIONS OF RESEARCH

The study's results highlight the significance of strong corporate governance practices in raising investment efficiency through higher-caliber financial reporting. These findings demonstrate to Pakistani policymakers and practitioners the necessity of improving governance procedures to improve overall business performance. Furthermore, efforts to increase financial reporting's accuracy and transparency may further improve investment results, according to the role of financial reporting quality as a mediator.

LIMITATIONS OF RESEARCH

There are several limitations to this study. Firstly, the conclusions can only be applied to nonfinancial enterprises listed on the PSX. Since the study spans 2012 to 2023, particular regulatory and economic frameworks of that era may impact the findings. It's possible that some aspects of CG, IE, and FRQ are not fully captured by the proxies used. Furthermore, biases may be introduced if secondary data from yearly reports is relied upon.

FUTURE DIRECTION

Future research might build on this by incorporating a wider spectrum of organizations, including financial institutions, to improve the generalizability of the results. More recent data from longitudinal studies may shed light on the changing relationship between IE, FRQ, and CG. Examining further developing markets may also provide comparative viewpoints.

REFERENCES

- Al Azeez, H. A. R., Sukoharsono, E. G., & Andayani, W. (2019). The impact of board characteristics on earnings management in the international oil and gas corporations. *Academy of Accounting sand Financial Studies Journal*, 23(1), 1-26
- Alodat, A. Y., Salleh, Z., Hashim, H. A., & Sulong, F. (2022). Corporate governance and firm performance: Empirical evidence from Jordan. *Journal of Financial Reporting and Accounting*, 20(5), 866-896.
- Anderson, A. G. (1977). Conflicts of Interest: Efficiency, Fairness and Corporate Structure. *UCLA L. Rev.*, 25, 738.
- Armstrong, C. S., Guay, W. R., & Weber, J. P. (2010). The role of information and financial reporting in corporate governance and debt contracting. *Journal of accounting and economics*, 50(2-3), 179-234.
- Asiri, M., Al-Hadi, A., Taylor, G., & Duong, L. (2020). Is corporate tax avoidance associated with investment efficiency? *The North American Journal of Economics and Finance*, 52, 101143.
- Assad, N. F., & Alshurideh, M. T. (2020). Financial reporting quality, audit quality, and investment efficiency: Evidence from GCC economies. *WAFEN-UND Kostumkd. J*, 11(3), 194-208.
- Barth, M. E., & Schipper, K. (2008). Financial reporting transparency. *Journal of Accounting, Auditing & Finance*, 23(2), 173-190.
- Berkovitch, E., & Kim, E. H. (1990). Financial contracting and leverage induced overand underinvestment incentives. *The Journal of Finance*, 45(3), 765-794.
- Bevir, M. (2012). *Governance: A very short introduction*. OUP Oxford.

- Biddle, G. C., & Hilary, G. (2006). Accounting quality and firmlevel capital investment. *The Accounting Review*, 81(5), 963-982.
- Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of accounting and economics*, 48(2-3), 112-131.
- Boubaker, S., Houcine, A., Ftiti, Z., & Masri, H. (2018). Does audit quality affect firms' investment efficiency? *Journal of operational research society*, 69(10), 1688-1699.
- Bushee, B. J. (1998). The influence of institutional investors on myopic R&D investment behavior. *Accounting review*, 305-333.
- Chemmanur, T. J., Hu, G., & Wei, K. J. (2021). The role of institutional investors in corporate and entrepreneurial finance. *Journal of Corporate Finance*, 66, 101833.
- Chen, F., Hope, O.-K., Li, Q., & Wang, X. (2011). Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review*, 86(4), 1255-1288.
- Chen, I.-J., & Lin, S.-H. (2012). Will managerial optimism affect the investment efficiency of a firm? *Procedia Economics and Finance*, 2, 73-80.
- Chen, R., El Ghoul, S., Guedhami, O., & Wang, H. (2017). Do state and foreign ownership affect investment efficiency? *Evidence from privatizations. Journal of Corporate Finance*, 42, 408-421.
- Demsetz, H. (1983). The structure of ownership and the theory of the firm. *The journal of law and Economics*, 26(2), 375-390.
- Enriques, L., Hansmann, H., Kraakman, R., & Pargendler, M. (2017). The basic governance structure: minority shareholders and non-shareholder constituencies.
- GarcíaSánchez, I. M., Hussain, N., Khan, S. A., & MartínezFerrero, J. (2020). Managerial entrenchment, corporate social responsibility, and earnings management. *Corporate Social Responsibility and Environmental Management*, 27(4), 1818-1833.
- Gerged, A. M. (2021). Factors affecting corporate environmental disclosure in emerging markets: The role of corporate governance structures. *Business Strategy and the Environment*, 30(1), 609-629.
- Gupta, P., & Chauhan, S. (2023). Dynamics of corporate governance mechanisms-family firms' performance relationship-a meta-analytic review. *Journal of Business Research*, 154, 113299.
- Hammood, A. M., & Dammak, S. (2023). The mediating role of the balanced scorecard in the relationship between internal control and the financial reports quality. *International Journal of Professional Business Review*, 8(1), e01060-e01060.
- Hasan, A., Aly, D., & Hussainey, K. (2022). Corporate governance and financial reporting quality: a comparative study. *Corporate Governance: The International Journal of Business in Society*, 22(6), 1308-1326.
- Houcine, A. (2017). The effect of financial reporting quality on corporate investment efficiency: Evidence from the Tunisian stock market. *Research in International Business and Finance*, 42, 321-337.
- Houcine, A., Zitouni, M., & Srairi, S. (2022). The impact of corporate governance and IFRS on the relationship between financial reporting quality and investment efficiency in a continental accounting system. *EuroMed Journal of Business*, 17(2), 246-269.
- Iqbal, A., Ali, F., Umar, M., Ullah, I., & Jebran, K. (2022). Product market competition and financial analysts' forecast quality: The mediating role of financial reporting quality. *Borsa Istanbul Review*, 22(2), 248-256.
- Javed, A., Aksar, M., Haq, A.-u., Naeem, M., & Sufyani, M. A. (2023). Do Corporate Social Responsibility and International Financial Reporting Standards Implementation Matter? *Indonesian Journal of Sustainability Accounting and Management*, 7(1).
- Javed, A., & Qazi, Y. I. (2024). Impact of Corporate Governance on Investment Efficiency Through Audit Quality in Firms of Pakistan. *Journal of Business and Management Research*, 3(1), 399-415.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, 76(2), 323-329.

- Jensen, M. C., & Meckling, W. H. (2019). Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate Governance* (pp. 77-132). Gower.
- Jenson, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
- Kanagaretnam, K., Lobo, G. J., & Whalen, D. J. (2007). Does good corporate governance reduce information asymmetry around quarterly earnings announcements? *Journal of Accounting and Public policy*, 26(4), 497-522.
- Kudratova, S., Huang, X., Kudratov, K., & Qudratov, S. (2020). Corporate sustainability and stakeholder value tradeoffs in project selection through optimization modeling: Application of investment banking. *Corporate Social Responsibility and Environmental Management*, 27(2), 815-824.
- Larcker, D., & Tayan, B. (2020). *Corporate governance matters*. FT Press.
- Liu, L., Zhao, Z., Zhang, M., & Zhou, D. (2022). Green investment efficiency in the Chinese energy sector: Overinvestment or underinvestment? *Energy Policy*, 160, 112694.
- Matos, P. (2020). ESG and responsible institutional investing around the world: A critical review.
- Mahdi Sahi, A., Mahdi Sahi, A., Abbas, A. F., & FA Khatib, S. (2022). Financial reporting quality of financial institutions: Literature review. *Cogent Business & Management*, 9(1), 2135210.
- McNichols, M. F., & Stubben, S. R. (2008). Does earnings management affect firms' investment decisions? *The Accounting Review*, 83(6), 1571-1603.
- Moradi, M., Yazdifar, H., Eskandar, H., & Namazi, N. R. (2022). Institutional ownership and investment efficiency: evidence from Iran. *Journal of Risk and Financial Management*, 15(7), 290.
- Okpara, J. O. (2011). Corporate governance in a developing economy: barriers, issues, and implications for firms. *Corporate Governance: The International Journal of Business in Society*, 11(2), 184-199.
- Prowse, S. D. (1990). Institutional investment patterns and corporate financial behavior in the United States and Japan. *Journal of financial economics*, 27(1), 43-66.
- QAWQZEH, H. K., ENDUT, W. A., & RASHID, N. (2021). Board components and quality of financial reporting: mediating effect of audit quality. *Journal of Contemporary Issues in Business and Government*, 27(2), 178-190.
- Rashid, M. M. (2020). Financial reporting quality and share price movement-evidence from listed companies in Bangladesh. *Journal of Financial Reporting and Accounting*, 18(3), 425-458.
- Shahzad, F., Rehman, I. U., Colombage, S., & Nawaz, F. (2019). Financial reporting quality, family ownership, and investment efficiency: An empirical investigation. *Managerial Finance*, 45(4), 513-535.
- Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance*, 52(2), 737-783.
- Stein, J. C. (2003). Agency, information and corporate investment. *Handbook of the Economics of Finance*, 1, 111-165.
- Uwuigbe, U., Teddy, O., Uwuigbe, O. R., Emmanuel, O., Asiriwuwa, O., Eyitomi, G. A., & Taiwo, O. S. (2018). Sustainability reporting and firm performance: A bi-directional approach. *Academy of Strategic Management Journal*, 17(3), 1-16.
- Verdi, R. S. (2006). Financial reporting quality and investment efficiency. Available at SSRN 930922.
- Wahyudin, A., & Solikhah, B. (2017). Corporate governance implementation rating in Indonesia and its effects on financial performance. *Corporate Governance: The International Journal of Business in Society*, 17(2), 250-265.
- Wang, J., Ran, M., & Li, Y. (2023). Striving to improve investment efficiency among Chinese firms: does the role of venture capital matter? *Chinese Management Studies*, 17(4), 851-882.