



FINANCIAL REPORTING QUALITY AND CORPORATE INVESTMENT EFFICIENCY:
THE ROLE OF AUDIT COMMITTEE INDEPENDENCE

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Abstract

This study aims to analyse the impact of financial reporting quality (FRQ) on corporate investment efficiency (IE) and investigate this relationship with the moderating effect of audit committee independence (ACI). FRQ decreases information asymmetry, reduces managerial opportunism and enhances allocation of corporate resources. The study is hypothesized that good financial reporting allows managers and outside capital suppliers to make better investment decisions. Moreover, it is also hypothesized that audit committee independence strengthens the relationship. The study covers non-financial firms listed at the Pakistan Stock Exchange (PSX) for the period from 2016 to 2025 and utilizes the information from annual reports and other secondary sources in the fields of financial reporting and corporate governance. The study uses pooled ordinary least squares, firm fixed effects, and System Generalized Method of Moments estimations to investigate the relationships and to mitigate the possible endogeneity issues. Results indicate that increased financial reporting quality is positively correlated with investment efficiency. Moreover, the audit committee independence strengthens the positive relationship between financial reporting quality and corporate investment efficiency by providing a monitoring function for management. The findings remain robust after employing alternative measures of variables and additional endogeneity tests. The study makes a contribution to the existing literature of the role of high financial reporting quality and audit committee independence in enhancing corporate investment decisions in Pakistan.

Keywords: Financial Reporting Quality, Investment Efficiency, Audit Committee Independence, System GMM, Corporate Governance, Pakistan

1. Introduction

One of the basic decisions of firms is to invest its financial resources. To invest efficiently, firms undertake those projects that have a positive net present value (Francis, Huang, Khurana, & Pereira, 2009). But in practice, there are many reasons why firms often fall short of the optimal investment level, such as information asymmetries, agency conflicts, financing constraints, and managerial opportunism. These deviations can lead to overinvestment, when companies invest in projects that are not sufficiently backed by their growth potential or underinvestment, when companies miss out on projects that could have high growth



potential but require more investment. This inefficiency in investment can in turn limit firm growth, lower profits and impact shareholder value (Zhengwei, 2013). Hence, this is an important topic for research in accounting and corporate finance to come up with any mechanism to enhance the quality of the corporate investment decision.

Financial reporting quality (FRQ) is an important factor by which firms can render investments more efficiently. Financial reports are written to give external parties information about firms' financial position, operating performance, cash flows and investment opportunities. If a company reports well, external capital suppliers can better assess the company and track managerial decisions. Financial reporting and disclosure can potentially resolve under-investment and over-investment issues which in turn raise investment efficiency (Chen, Hope, Li, & Wang, 2011; Khan, Safdar, & Manzoor, 2024). Investors' information inequality can be reduced by high-quality accounting data, which helps to improve capital market liquidity (Harymawan, 2020). Managers can build their empires, pursue personal benefit investment projects, moreover, not interested in projects that generate high firm return create agency conflicts. Such behavior can be monitored through high-quality financial reporting, which contributes to increased transparency and enables shareholders to supervise managerial decisions better. Another significant explanation is managers generally have more information on the prospects of investment in the firm compared to outside investors. This information gap can be reduced by the provision of more credible information to the external capital providers through the provision of high-quality financial reporting. This makes it easier for investors to assess the prospects for the firms and for creditors to assess default and investment risk (Araújo, 2013). Consequently, examining the correlation between financial reporting quality (FRQ) and investment efficiency is essential within the context of agency theory (Eisenhardt, 1989) and information asymmetry theory (Grossman, 1981).

Corporate governance significantly enhances a company's openness, accountability, and financial decision-making processes (Alias, Yaacob, Rahim, & Nor, 2016). The aspect of corporate governance regarding the function of the audit committee is crucial for overseeing the management of the firm, enhancing internal controls, and safeguarding shareholder interests (Rochmah & Ardianto, 2020). The independent audit committee members undertake these monitoring functions more objectively as they are less influenced by the executive management (Padmini & Ratnadi, 2020). Thus, audit committee independence helps to build the credibility of financial reporting and improve monitoring of managerial decisions. Independent audit committees help to minimize manager opportunism and to promote efficient use of corporate resources (Yeo, 2018). Despite the importance of the role, limited empirical studies have found on the influence of audit committee independence in the relationship between financial reporting quality and firm's investment efficiency within developing nations.

Hence the purpose of this study is to investigate the impact of financial reporting quality on firm investment efficiency and to check the moderating influence of audit committee independence in this relationship. The Pakistani context is particularly relevant to investigate the relationships. Pakistan is an emerging capital market where firms are surrounded by an institutional setting of information asymmetry and concentrated ownership. This research analyses the non-financial firms listed at the Pakistan Stock Exchange (PSX) from 2016 to 2025. The examination employs estimation techniques to provide empirical findings. Adopting several estimation methods increases the degree of assurance of the outcomes and helps to account for the heterogeneity across firms and possible endogeneity. The accrual-quality measure that has been used to measure financial reporting quality based on (Kasznik, 1999) model, deviations between actual and expected investments are used to estimate investment efficiency following (Biddle, Hilary, & Verdi, 2009). A dummy variable is used for auditors' independence (Zhou, Owusu-Ansah, & Maggina, 2018).

Regression results indicate that firms with high financial reporting quality have positive impact on firm investment efficiency and validate hypothesis I based on agency theory. Further the findings also support the hypothesis II that corporations with audit committee independence strengthen the positive relationship between financial reporting quality and firm investment efficiency with efficient investment decisions consistent with resource-based theory. Furthermore, the qualitative findings remain consistent after resolving endogeneity concerns and function misspecification biases through the application of the Propensity Score



Matching (PSM) technique, as well by utilizing alternative definition of investment efficiency and audit committee independence.

This research presents several contributions to existing literature. Firstly, it enhances the current literature of FRQ and IE. Secondly, the study enhances the corporate governance literature by examining audit committee independence as a moderating variable. Third, the study combines the financial reporting and corporate governance aspects through a proposition that the more reliable the financial information and the more independent the monitoring, the more effective the corporate resource allocation. The results of this research are significant for the regulators, investors, the board, and the audit committee and highlight the need for high-quality financial reporting and robust independent monitoring systems.

2. Literature Review and Hypotheses Development

The efficiency of corporate investment is the capacity of a business to deploy its resources into investments with positive NPV that do not destroy shareholder wealth. Financial reporting quality (FRQ) is one of the important ways in which these inefficiencies can be reduced, as high-quality accounting information can give stakeholders the information, they need to be able to reliably and meaningfully understand the firm's financial position, performance, cash flows, and investment opportunities. The Literature show the importance of FRQ for corporate investment efficiency. For example, Khan, Safdar, and Manzoor (2024) investigate the financial reporting quality of 18,231 publicly traded companies across 36 nations, discovering a favourable correlation with investment efficiency. Similarly, Khan, Safdar, and Irfan (2024) examine 13,231 companies in 24 emerging and frontier economies, concluding that the FRQ has positive and significant influence on investment efficiency in less developed institutional environments. The seminal evidence comes from Biddle et al. (2009) who demonstrate that high financial reporting correlates positively with investment efficiency, as enhanced reporting diminishes information asymmetry and encourages firms to make investment decisions that align more closely with their optimal levels.

Similarly, Chen et al. (2011) find that financial information helps to enhance and has a positive effect in the efficiency of investment in emerging markets. Furthermore, Tahat, Ahmed, and Power (2022) show that institutional features affect the reporting quality on investment efficiency, which indicates that accounting information's effectiveness is, in part, dependent on the institutional environment of the firms. Similarly, Harymawan (2020) finds higher quality of financial reporting has a positive effect on efficiency of investment in the listed companies, which is especially significant in reducing the risk of overinvestment in the investment of the listed company in Indonesia. Research on Pakistani firms has revealed that opportunistic reporting can be related to inefficient investment decisions. For instance, there is recent evidence on real earnings management which shows that managerial actions taken during reporting can impact Pakistani non-financial firms' investment inefficiency. This substantiates the fact that accounting information is crucial in terms of its credibility and quality for effective corporate investment decision (Shahzad, Rehman, Hanif, Asim, & Baig, 2019). Their study finds that improved financial reporting quality is linked with improved efficiency in investment.

Hence, given the above discussion, the following relationship is hypothesized:

H1: Financial reporting quality has a positive effect on corporate investment efficiency

In the field of internal governance mechanisms, the audit committee has a more significant role as it is responsible for internal control, the external audit process and financial reporting. Independence is especially relevant within the audit committee where independent members are expected to exercise objective judgment and be able to resist influence from the management. The literature suggests that audit committee qualities have significant impact on improving the investment efficiency and performance of companies. Park (2023) concludes that the more active the audit committee, the more efficient the investment process. Yadav and Yadav (2024) claim that independent audit committees can diminish information asymmetry and managerial opportunism, which help in lessen the inefficient investment decisions. Khattak, Hussain, and Khan (2022) ascertain the beneficial influence of diverse corporate governance methods on investment efficiency by GMM analysis.



Surjadi and Bangun (2024) find a strong and favourable correlation between the company's performance and the independence of the audit committee. Oroud (2019) also indicates that the frequency of audit committee meetings, the independence of the audit committee, and its size have favourable and significant effects on corporate performance. Salehi, Tahervafaei, and Tarighi (2018) examine the influence of investments in the Saudi Stock Exchange and explain the significance of internal corporate governance on investment results, including the features of the board of directors and the qualities of the audit committee. The correlation between the independence of the audit committee and business performance is statistically meaningful. Indrawan, Agoes, Pangaribuan, and Popoola (2018) each a similar finding in their analysis of 10 insurance firms on the Nigerian Stock Exchange, indicating a favourable correlation between effective corporate governance and financial success. However, the empirical evidence about the attributes of audit committees is not consistently aligned.

The study by Al-Sraheen, Al-Olimat, Nofan Hamed Hamdan, and Naser (2024) indicates that an excessive number of independent directors on the audit committee may adversely affect the company's performance. Toumeh, Yahya, and Amran (2023) find that the performance of the company in terms of return on equity (ROE) and return on assets (ROA) is significantly correlated with the independence of the audit committee. In contrast to previous studies, Nekhili, Gull, Chtioui, and Radhouane (2020) do not identify a significant correlation between the independence of audit committees and the performance of manufacturing firms.

The present study proposes therefore:

H2: Audit committee independence strengthens the positive relationship between financial reporting quality and corporate investment efficiency

3. Research Methodology

The study's population comprises non-financial firms registered on the Pakistan Stock Exchange from 2016 to 2025. The financial companies, including commercial banks, insurance firms, and investment corporations, mutual funds and other financial-sector companies are omitted as their financial statements and investment structures differ significantly from those of non-financial companies. In this study, secondary data is used. The financial data on financial reporting characteristics, investment efficiency and control variables are gathered from sample firms that are listed on the PSX Annual Report. Details of audit committee members' independence are retrieved from the corporate governance section of annual reports. The final sample is 292 non-financial firms, and 2518 firm-year observations would represent a completely balanced dataset.

To evaluate the study's hypothesis, we formulate the subsequent two models in Equation (1) and Equation (2).

$$IE_{it} = \alpha_0 + \beta_1 FRQ_{it} + \beta_2 Firm\ Leverage_{it} + \beta_3 Firm\ Size_{it} + \beta_4 Sales\ Growth_{it} + \beta_5 CFO_{it} + \beta_6 Firm\ Age_{it} + \beta_7 TANG_{it} + \sum \beta_j IND_DUM + \sum \beta_n Year_DUM + \varepsilon_{it} \quad (1)$$

$$IE_{it} = \alpha_0 + \beta_1 FRQ_{it} + \beta_2 ACI_{it} + \beta_3 (FRQ \times ACI)_{it} + \beta_4 Firm\ Leverage_{it} + \beta_5 Firm\ Size_{it} + \beta_6 Sales\ Growth_{it} + \beta_7 CFO_{it} + \beta_8 Firm\ Age_{it} + \beta_9 TANG_{it} + \sum \beta_j IND_DUM + \sum \beta_n Year_DUM + \varepsilon_{it} \quad (2)$$

The investment efficiency is the study's dependent variable, which is measured by the absolute values of the investment model residual proposed by Biddle et al. (2009). The future investments are forecasted with this model according to equation (3) that represent the growth potential of a company's revenues.

$$I_{TOTAL\ it} = \beta_0 + \beta_1 Sales\ Growth_{i,t-1} + \varepsilon_{i,t} \quad (3)$$

Where (I~TOTAL~) denotes the aggregate investment. Consistent with prior studies, lagged total assets are employed to normalise total investment (I~TOTAL~). Sales Growth refers to the proportional rise or fall in a company's sales relative to the preceding year. The divergence from the anticipated investment level in the regression model is evident in the residuals (ε_{it}) of the regression analysis.

A positive ε_{it} indicates when the investment level is higher than calculated based on the rise in sales, it is called overinvestment. In contrast, if ε_{it} is negative, then it is an underinvestment, as investment is below that expected. The negative residuals should be multiplied by '-1' and the absolute values of the residuals used



to represent IE in equation (3) to obtain the residuals. Therefore, investing efficiently is indicated by a high value of ε_{it} .

The independent variable financial reporting quality is measured, as in the previous studies where FRQ is estimated with the Kasznik (1999) model that suggests that the exclusion of cash flows from the operation of Jones model (Jones, 1991) would increase the estimation error.

The equation below calculates FRQ:

$$TA_{it} = \beta_0 + \beta_1 \Delta Sales_{i,t} + \beta_2 PPE_{i,t} + \beta_3 \Delta CFO_{i,t} + \varepsilon_{i,t} \quad (4)$$

where, TA_{it} denotes total accruals; $\Delta Sales_{i,t}$ signifies the variation in sales from year t to $t-1$. $PPE_{i,t}$ denotes property, plant, and equipment, $\Delta CFO_{i,t}$ signifies the variation in operational cash flows from year t to $t-1$ and $\varepsilon_{i,t}$ indicates the error term. We acquired the definitive values of residuals and multiplied them by (-1) to calculate FRQ. An elevated value of residuals signifies an increased FRQ

A dummy variable is used to quantify audit committee independence in this study. The independence of audit committees is captured by a dummy variable taking the value of one if the audit committee is composed of all non-executive/ independent directors and zero otherwise (Zhou et al., 2018). The firm leverage, firm size, sales growth, cash flow, firm age and tangibility are taken as control variables in this study. The ratio of total debt to total assets (Nadeem, Suleman, & Ahmed, 2019) is used to measure leverage. The size of the firm is measured by the natural log of total asset (Shahid & Abbas, 2019). These control variables are used to help control other attributes that could systematically impact investment decisions and investment efficiency for firms. The increase or decrease from one year's sales to another is the sales growth rate. Operating income before depreciation and interest payments are deducted to arrive at the cash flow (Shahid & Abbas, 2019). Firm age is natural logarithm of years since establishment (Coad, Holm, Krafft, & Quatraro, 2018). The asset tangibility ratio is asset value (property, plant and equipment) divided by total asset (Panda & Das, 2014).

To test the hypothesis, three main models are estimated: Pooled OLS, Fixed-Effects regression and System GMM. The Ordinary Least Square (OLS) model assumes that the industry and year fixed effects have robust standard errors (Hao, Chen, & Chen, 2022). Fixed Effects (FE) estimator is then used to deal time-invariant firm specific characteristics which could affect variables (Dehaan, 2021). Finally, to address potential endogeneity, reverse causality and dynamic relationships between the explanatory variables, System GMM is used (Banerjee & Guha Deb, 2024). Endogeneity and functional misspecification biases are addressed using the Propensity Score Matching (PSM) technique (Peel & Makepeace, 2012). The firms that have high and low financial reporting quality can be matched on their observable characteristics: firm size and leverage, growth, profitability, and tangibility. The post-matching analysis can then reveal if there are still differences in investment efficiency after observable differences between firms have been eliminated. The definition of investment efficiency and audit committee independence used is alternative and baseline findings are validated in robustness tests.

4. Results and Discussion

4.1. Descriptive Analysis

The descriptive statistics indicate mean, median and standard deviation of study variables in Table 1. The average investment efficiency (IE) is 0.073, and the median is at 0.045. The mean FRQ is 0.429, and the SD is 0.597. The average value of audit committee independence (ACI) is 0.361. This reflects the fact that the variable ACI is a dummy variable, meaning that about 36.1% of the number of firm-year observations meet the criterion for audit committee independence. As far as the control variables are concerned, the average leverage is 0.215, the mean size of the firms is 0.832, the means of sales growth is 0.102, the mean value of CFO is 0.070, suggesting that sampled firms generate positive operating cash flows on average. the meaning of the Age variable is 15.097. Last, Tangibility is 0.490, meaning that on average, 50% of the firms' assets are tangible.



Table 1

Descriptive Statistics

	N	Mean	Median	Std. Dev.	Min	Max
IE_Biddle	2518	0.073	0.045	0.098	0.021	0.866
FRQ	2518	0.429	0.597	0.495	0.000	1.000
ACI	2518	0.361	0.411	0.436	0.000	1.000
Firm Lev	2518	0.215	0.067	0.123	0.000	0.613
Firm Size	2518	0.832	0.723	1.032	9.827	15.651
Sales Growth	2518	0.102	0.092	0.317	-0.686	1.935
CFO	2518	0.070	0.055	0.123	-0.247	0.573
Age	2518	15.097	14.022	0.173	3.080	18.935
TANG	2518	0.490	0.500	0.250	0.000	1.000

4.2. Correlation Analysis

The results show that financial reporting quality (FRQ) is positively correlated with investment efficiency (IE) with the coefficient of 0.098 and it is statistically significant at 10% level ($p < 0.10$). This finding shows that H1 is supported. Likewise, investment efficiency is positively and statistically significantly related to audit committee independence (ACI) ($r = 0.060$, $p < 0.10$). The positive coefficient suggests that higher audit committee independence is linked to better investment efficiency of the sampled firms. The correlation coefficients between the explanatory variables are not large in general. The correlation coefficients are far short of the widely accepted value of 0.80, thus minimizing the possibility of multicollinearity impacting the regression estimates.

Table 2

Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) IE_Biddle	1.000								
(2) FRQ	0.098*	1.000							
(3) ACI	0.060*	0.054*	1.000						
(4) Firm Lev	-0.083*	0.421*	0.396*	1.000					
(5) Firm Size	0.190*	0.030	0.076	0.024	1.000				
(6) Sales Growth	0.080*	-0.080	0.160*	0.071*	0.650*	1.000			
(7) CFO	0.360*	-0.020	-0.090*	-0.015	0.120*	0.065*	1.000		
(8) AGE	0.250*	-0.050*	-0.250*	-0.038	0.170*	0.330	0.346*	1.000	
(9) TANG	0.040*	-0.040	0.080*	0.021	0.090*	0.080*	0.030*	0.456*	1.000

* $p < 0.10$.

5. Regression Analysis

5.1. Effect of Financial Reporting Quality on Corporate Investment Efficiency

Table 3 shows the direct effect of FRQ on IE based on three different estimations: OLS, fixed-effects and system GMM technique respectively. The FRQ coefficient is 0.084 in the OLS model and 0.065 in the GMM model at 5% level of Significance and 0.071 in the fixed-effects model at 10% level of significance. Such findings confirm the hypothesis H1 with agency theory (Eisenhardt, 1989), information asymmetry theory (Grossman, 1981) and with the literature (Chen et al., 2011; Khan, Safdar, & Manzoor, 2024).

Table 3

Effect of Financial Reporting Quality on Investment Efficiency

	(Model 1: OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
VARIABLES	IE_Biddle	IE_Biddle	IE_Biddle
Lag (IE) Biddle	---	---	0.498***
	(--)	(--)	(1.209)



	(Model 1: OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
VARIABLES	IE_Biddle	IE_Biddle	IE_Biddle
FRQ	0.084** (3.21)	0.071* (2.78)	0.065** (2.34)
LEV	-0.052** (-2.17)	-0.047** (-2.03)	-0.041* (-1.89)
SIZE	0.013*** (3.05)	0.010** (2.31)	0.009** (2.15)
SG	0.061*** (4.12)	0.055*** (3.76)	0.049*** (3.31)
CFO	0.093*** (3.67)	0.082*** (3.25)	0.076*** (2.94)
AGE	0.008* (1.81)	0.006 (1.42)	0.005 (1.27)
TANG	0.037** (2.26)	0.032** (2.01)	0.029* (1.84)
Industry Effects	NO	YES	YES
Year Effects	YES	YES	YES
Constant	-0.478 (-1.580)	0.384 (0.437)	-0.233*** (-6.023)
Observations	2518	2518	2179
R-squared	0.238	0.214	---
AR (1) (z, p-value)	---	---	-0.012 (0.010)
AR (2) (z, p-value)	---	---	-0.327 (0.209)
Sargan Test (chi square, p-value)	---	---	284.1 (0.000)
Hansen Test (chi square, p-value)	---	---	186.1 (0.174)

*** p<0.01, ** p<0.05, * p<0.1

5.2. Moderating Effect of Audit Committee Independence

The coefficient of the interaction term $FRQ \times ACI$ is positive and statistically significant in all three models in Table 4. The interaction coefficient is 0.073 ($p < 0.01$) under OLS, 0.068 ($p < 0.01$) under fixed effects, and 0.059 ($p < 0.05$) under system GMM. Reliability of the positive interaction coefficient in the various estimation methods is quite strong in support of the moderating hypothesis. An independent audit committee has the potential to increase the trustworthiness of financial statements by holding management to account, interacting with the external auditors, and limiting managerial opportunism. Thus, the findings are consistent with H2 consistent with resource-based theory (Wan, Hoskisson, Short, & Yiu, 2011).

Table 4

Moderating Effect of Audit Committee Independence

	(Model 1: OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
VARIABLES	IE_Biddle	IE_Biddle	IE_Biddle
Lag. IE_Biddle	---	---	0.272*** (11.56)
FRQ	0.061*** (2.76)	0.052** (2.31)	0.047** (2.08)
ACI	0.032** (2.14)	0.029** (1.98)	0.026* (1.82)
FRQ*ACI	0.073***	0.068***	0.059***



VARIABLES	(Model 1: OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
	IE_Biddle	IE_Biddle	IE_Biddle
	(3.12)	(2.87)	(2.42)
Control Variables	Included	Included	Included
Industry Effects	YES	NO	YES
Year Effects	YES	YES	YES
Constant	-0.079***	0.209	0.198***
	(-3.02)	(0.342)	(4.091)
Observations	2518	2518	2179
R-squared	0.165	0.134	---

*** p<0.01, ** p<0.05, * p<0.1

6. Robustness Analysis

6.1. Alternative Measure of Investment Efficiency

To test the robustness of the main findings, the main measure of investment efficiency is replaced by another measure based on the investment efficiency approach developed by (Chen et al., 2011) in Table 5. The coefficient of (FRQ * ACI) is positive and significant in all three estimations (OLS, fixed-effects, and GMM). The coefficients are 0.054 (p < 0.05) in OLS, 0.026 (p < 0.05) in the FE model, and 0.031 (p < 0.01) in GMM. Qualitatively the findings are consistent with baseline results.

Table 5

Alternative Measure of Investment Efficiency

VARIABLES	(Model 1: OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
	IE_Chen	IE_Chen	IE_Chen
Lag. IE_Chen	---	---	0.156***
	(--)	(--)	(8.24)
FRQ	0.079*	0.068*	0.061**
	(3.08)	(2.71)	(2.29)
ACI	0.051**	0.038**	0.032*
	(3.22)	(2.87)	(1.67)
FRQ*ACI	0.054**	0.026**	0.031***
	(1.25)	(1.17)	(3.12)
Control Variables	Included	Included	Included
Industry Effects	YES	NO	YES
Year Effects	YES	YES	YES
Constant	-0.081***	0.321	0.173***
	(-3.05)	(0.243)	(3.071)
Observations	2518	2518	2179
R-squared	0.230	0.140	---

*** p<0.01, ** p<0.05, * p<0.1

6.2. Alternative Measure of Audit Committee Independence

To test the robustness of the moderating effect of ACI, we also use the proportion of independent audit committee members as an alternative ACI measure (Woidtke & Yeh, 2013) as shown in Table 6. Overall, results are consistent with the key findings. The interaction coefficient of (FRQ* ACI) is positive and significant under OLS (0.081, p < 0.01), fixed effects (0.074, p < 0.01), and GMM (0.065, p < 0.05). The consistent positive interaction coefficient show that the moderating effect provides additional evidence with basic analysis.



Table 6

Alternative Measure of Audit Committee Independence

	(Model 1: OLS)	(Model 2: Fixed Effects)	(Model 3: System GMM)
VARIABLES	IE_Biddle	IE_Biddle	IE_Biddle
Lag. IE_Biddle	---	---	0.231***
	(--)	(--)	(9.56)
FRQ	0.036**	0.031*	0.028*
	(2.21)	(1.97)	(1.81)
ACI	0.041**	0.037*	0.034*
	(2.18)	(1.91)	(1.79)
FRQ*ACI	0.081***	0.074***	0.065**
	(3.35)	(3.01)	(2.57)
Control Variables	Included	Included	Included
Industry Effects	YES	NO	YES
Year Effects	YES	YES	YES
Constant	-0.079***	0.209	0.198***
	(-3.02)	(0.342)	(4.091)
Observations	2518	2518	2179
R-squared	0.165	0.134	---

*** p<0.01, ** p<0.05, * p<0.1

6.3. Endogeneity Concerns

Table 7 presents the findings of the propensity score matching analysis. Firms exhibiting high financial reporting quality, exceeding the median, are classified in the treatment group labelled as 1, whereas those with low financial reporting quality firms, falling below the median, are categorized in the control group identified as 0. The t-test (p value) is 0.014 (0.71) indicating no statistical difference between two groups. Unlike the control group however, the treatment group has a significantly higher mean IE value. This further confirms H1. In Panel B the results show that after propensity score matching the interaction coefficient between FRQ and ACI is still positive and statistically significant. The coefficient of $FRQ \times ACI$ is 0.252 with a 1% level of significance. The results imply that the positive effect of FRQ on IE is greater if the firms have more independent audit committees. The PSM results thus support H2 further.

Table 7

Endogeneity Analysis using Propensity Score Matching

Panel A: Description statistics of matched sample and their comparison

	Mean			
Variables	ACI=1	ACI=0	t-test	p-value
IE	0.081	0.067	0.014	0.71
FRQ	0.175	0.133	1.39	0.165
Firm Lev	0.107	0.119	-1.04	0.300
Firm Size	15.87	15.867	0.02	0.983
Sale Growth	0.125	0.108	0.70	0.468
CFO	0.074	0.076	-0.25	0.801
TANG	0.092	0.099	-0.52	0.604
Age	0.486	0.507	-0.50	0.617



Panel B: PSM Regressions

	(1)	(2)
VARIABLES	ACI	IE Biddle
FRQ	0.006 (0.21)	0.323** (1.390)
ACI	---	0.120 (1.212)
FRQ × ACI	---	0.252*** (1.105)
Control Variables	Included	Included
Industry Fixed Effects	YES	YES
Year Fixed Effects	YES	YES
Constant	0.780 (1.15)	-0.287 (-0.509)
Observations	1210	1210
R-squared	---	0.284

*** p<0.01, ** p<0.05, * p<0.1

7. Conclusion

This study investigates the effect of financial reporting quality (FRQ) on corporate investment efficiency (IE) and the role of audit committee independence (ACI) as moderating variable. The subjects of this research are the non-financial firms listed on the Pakistan Stock Exchange (PSX) throughout the period of 2016 to 2025. The research aligned with agency theory indicates that superior financial reporting can diminish information asymmetry, limit management opportunism, and alleviate agency conflicts, hence enhancing the efficiency of corporate investment decisions. The empirical findings demonstrate that business investment efficiency is significantly positively impacted by the quality of financial reporting. Consequently, the hypothesis H1 is confirmed. The findings also indicate that the independence of the audit committee favourably enhance the association between the quality of financial reporting and investment efficiency, supporting H2.

The independent audit committee can enhance management supervision, strengthen accountability in financial reporting, and augment the reliability of financial data. Therefore, the ability of high quality financial reporting to support sound investment decisions is further strengthened as a consequence of an independent audit committee. The results do not change significantly when using different measures of investment efficiency and audit committee independence in robustness tests. There is also additional support for the reliability of the results, based on the propensity score matching analysis. Overall, the study finds that high financial reporting quality and effective audit committee independence help in improving corporate investment decision-making efficiency in Pakistan. The results have some implications for the managers, investors, regulators, and policy makers who are interested in improving financial reporting and corporate governance in emerging markets.

Author Contributions

Author participated in ideation, development, and writing the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Statement

The author/s declare that there is no conflict of interest regarding the publication of this article.

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Informed Consent

Informed consent was obtained from all participants.



Data Availability

The datasets generated during and analysed during the current study are available from the corresponding author on reasonable request.

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