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Do Investment Efficiency and Earnings Quality Matter for Firm Performance? Evidence from an Emerging Economy

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Abstract

Firms need efficient investment decisions and reliable financial reporting to improve performance. Poor investment decisions and weak reporting quality can decrease the profitability and investor confidence. This study examines the effect of investment efficiency and earnings quality on the firm performance of non financial listed firms in Pakistan. The study uses panel data from 350 firms covering the period from 2020 to 2025. The study applies two-step system GMM regression analysis. The findings show that investment efficiency has a positive and significant effect on firm performance. The results also indicate that earnings quality positively affects firm performance. The study concludes that efficient investment decisions and high-quality financial reporting improve profitability and financial performance. The findings support the agency theory and provide recent evidence from an emerging economy. The study offers useful implications for policymakers in improving corporate performance and financial reporting practices in Pakistan.

Keywords: Psychological Capital, Entrepreneurial Satisfaction, Burnout

1. Introduction

Firm performance is an important area of corporate finance and accounting research. Firms aim to improve profitability, increase operational efficiency and create value for shareholders (Thien et al., 2024; Yoon & Chung, 2018). The strong firm performance also contributes to economic growth, employment generation alongside the investment opportunities (Baik et al., 2013). However, maintaining stable performance is more difficult in emerging economies. Firms in these economies often face financial constraints and governance challenges (Bakhtiari et al., 2020). Therefore, identifying factors that improve firm performance has gained increasing attention from researchers and practitioners. Among these factors, investment efficiency has become an important topic in recent years (Adil et al., 2026A; Wu et al., 2024; Bae et al., 2022; Cao et al., 2020). Investment decisions determine how firms use their financial resources across projects and business activities. Investment is considered efficient when firms invest in projects that generate positive returns and avoid projects that reduce firm value (Madaan & Singh, 2019). Efficient investment helps firms improve operations and increase productivity. On the other hand, poor investment decisions may lead to overinvestment or underinvestment, which can reduce firm performance (Trong & Nguyen, 2021).

The relationship between investment efficiency and firm performance is explained through agency theory. According to this perspective, managers may not always act in the best interests of shareholders. Managers may pursue personal goals instead of value creating investments. Efficient investment decisions reduce agency conflicts and improve the use of corporate resources. As a result, firms can achieve better financial outcomes and stronger performance. Previous studies generally report that investment efficiency contributes positively to firm outcomes (Zaludin et al., 2021; Tebourbi et al., 2020). Firms with efficient investment practices tend to improve profitability and maintain competitive advantages. Efficient investment also supports long term sustainability and financial stability (Shaukat et al., 2026). However, the strength and direction of this relationship may differ across countries because institutional environments, governance structures and capital market conditions are not the same.

Another factor that may affect firm performance is earnings quality. Earnings quality shows how well reported earnings reflect a firm's actual financial condition (Aksar, 2023). High quality earnings provide more accurate and reliable information about business performance. This helps investors, creditors, and managers make better decisions. In contrast, low quality earnings may create misleading information and reduce trust among stakeholders (Elzahaby, 2021; Dang et al., 2020). Earnings information is important in capital markets because investors use financial reports to assess firm performance and future prospects (Adil et al., 2025B). When firms report high quality earnings, information gaps between managers and stakeholders become lower. As a result, confidence in financial reporting increases. Greater trust may improve access to financing and support better business decisions. This can ultimately lead to improved firm performance.

The previous studies have examined investment efficiency and earnings quality separately in relation to firm performance. Many studies found that investment efficiency improves firm outcomes. Likewise, firms with higher earnings quality often show better financial performance. However, the findings are not fully consistent across all countries and economic settings. Some studies report weak or insignificant relationships because institutional factors can affect firm decisions and performance. Although many studies have been conducted in developed economies. Therefore, the evidences from emerging economies are still limited. Emerging markets differ in governance practices, financial systems as well as in regulatory environments. Therefore, the findings from developed economies may not fully apply to emerging economies. Pakistan provides an important context for this study. It is an emerging economy with a developing capital market and an expanding corporate sector. Non financial firms play an important role in industrial growth and economic development. However, these firms also face challenges such as financial constraints and economic uncertainty. These conditions increase the importance of efficient investment decisions and high-quality financial reporting. The period from 2020 to 2025 provides additional motivation for this study. During this period, firms experienced economic disruptions, changing market conditions and recovery phases that influenced business decisions. Firms were required to manage investments more carefully while maintaining reliable financial reporting practices. Therefore, it is important to examine whether investment efficiency and earnings quality contribute to firm performance during this period.

Despite the growing literature, some important gaps still exist. First, only a few studies examine investment efficiency and earnings quality together in one model. Second, limited evidence is available for non financial listed firms in Pakistan. Third, recent evidence from the business environment after 2020 is still limited. Filling these gaps can provide updated findings for both researchers and practitioners. Therefore, this study examines whether investment efficiency and earnings quality affect firm performance in non financial listed firms in Pakistan during the period from 2020 to 2025. This study adds to the existing literature in several ways. It provides evidence from an emerging economy. It examines investment efficiency and earnings quality together in one framework. It also offers recent evidence using firm level data from Pakistan. The findings may help managers make better investment decisions and improve financial reporting quality. The results may also support investors, regulators, and policymakers in improving firm performance.

2. Literature Review and Hypothesis Development

2.1 Investment Efficiency and Firm Performance

Bae et al. (2022) examined whether efficient investment decisions improve corporate performance. The study showed that firms with higher investment efficiency achieved stronger financial results. The authors argued that efficient investment allows firms to allocate resources to productive projects and avoid unnecessary expenditures. This improves operational performance and increases firm value. Similarly, Wu et al. (2024) investigated the effect of investment efficiency on firm outcomes and found a positive relationship. The study showed that firms making efficient investment decisions were able to improve profitability and financial stability. The authors explained that efficient investment reduces waste of financial resources and supports sustainable business growth. In another study, Salehi et al. (2022) analyzed the role of investment efficiency in improving financial performance. The findings showed that firms with better investment practices reported stronger performance indicators. The study suggested that selecting profitable investment opportunities and avoiding inefficient spending contributes to long term business success. Likewise, Cao et al. (2020) examined the relationship between investment efficiency and firm performance and reported a significant positive effect. Their findings showed that efficient investment reduced resource misallocation and improved operating efficiency. Firms with stronger investment discipline generated better financial outcomes. Furthermore, Benlemlih and Bitar (2018) found that investment efficiency positively influenced firm performance. The study highlighted that efficient allocation of capital helped firms respond more effectively to changing market conditions. The authors concluded that firms that invest carefully are more likely to maintain profitability and improve financial results. More recently, Le et al. (2024) examined the importance of investment efficiency in corporate performance and reported a positive association. The study found that efficient investment decisions strengthened financial stability and improved overall firm outcomes. The authors emphasized that firms benefit when investment decisions are aligned with business objectives and future growth opportunities. Based on these studies, the proposed hypothesis:

H1: *Investment efficiency has a positive and significant effect on firm performance.*

2.2 Earnings Quality Matter and Firm Performance

Elzahaby (2021) examined the relationship between earnings quality and firm performance using manufacturing firms from South Asia. The study found that firms with higher earnings quality achieved better financial performance. The authors explained that reliable earnings provide more accurate information for decision making and reduce uncertainty among investors. The study also showed that lower performing firms were more likely to report lower earnings quality. Similarly, Aksar (2023) examined how earnings management affects firm performance in Sub Saharan African firms. The study highlighted that reporting quality influences financial outcomes and that stronger governance improves reporting practices. The findings supported the idea that transparent financial reporting contributes to better firm performance. In another study, Dang et al. (2020) found that higher earnings quality improved firm financial performance. The study argued that reliable accounting information reduces information asymmetry and increases stakeholder confidence. Firms with better reporting practices showed stronger financial outcomes. Likewise, Duarte et al. (2024) examined the role of earnings quality in explaining firm value and reported a positive relationship. The findings suggested that firms producing higher quality earnings were viewed more positively by market participants. Better reporting quality improved financial strength and supported long term performance. More recently, Intara et al. (2024) examined earnings related reporting practices and firm outcomes. The study showed that reporting quality remained important for improving firm performance and maintaining investor confidence. Firms with stronger financial reporting practices achieved better overall outcomes. Based on these studies, this study proposes the following hypothesis:

H2: *Earnings quality has a positive and significant effect on firm performance.*

3. Research Methodology

3.1 Data Source and Data Collection

This study uses secondary data collected from non-financial listed firms in Pakistan. The sample consists of 350 non-financial firms operating in 14 different sectors of the economy. The data covers the period from 2020 to 2025This period was selected to capture recent business conditions and provide updated evidence on the current study's proposed associations. The data was collected from two main sources. The first source was the annual reports of individual firms. The second source was the FSA report published by the State Bank of Pakistan. Further, the data from these sources was reviewed, organized and prepared for empirical analysis. By using annual reports and FSA report improves data reliability and increases the consistency of the study findings.

3.2 Variables Measurement

The dependent variable of this study is firm performance. Firm performance reflects how effectively a firm uses its resources to generate profits and improve financial outcomes (Adil et al., 2024). This study utilizes two accounting-based measures of firm performance: return on assets and return on equity. The independent variables of this study are investment efficiency and earnings quality. Investment efficiency is measured using the Richardson (2006) residual-based model. The model estimates expected investment levels using the following regression equation.

$$INV_{i,t} = \beta_0 + \beta_1 Growth_{i,t-1} + \beta_2 Lev_{i,t-1} + \beta_3 Cash_{i,t-1} + \beta_4 Age_{i,t-1} + \beta_5 Size_{i,t-1} + \varepsilon_{i,t}.$$

Investment = Capital Expenditure / Total Assets. The variables include Growth (lagged growth opportunities), Lev (lagged leverage), Cash (lagged cash holdings), Age (firm age) and Size (firm size), all measured at t-1. The absolute value of the residuals (|ε|) represents investment inefficiency, where INV = |ε|. Lower residual values indicate higher investment efficiency. This means that firm's actual investment is closer to its expected optimal investment level (Congreve & Shin, 2026).

Further, earnings quality is measured using the Modified Jones Model through discretionary accruals (Gbadebo et al., 2023; Yoon et al., 2022). First, total accruals are calculated as the difference between net income and cash flow from operations. The *TA* represents total accruals, *NI* represents net income and *CFO* represents cash flow from operations.

$$TA_{i,t} = NI_{i,t} - CFO_{i,t}$$

Next, normal accruals are estimated using the following model. The $A_{i,t-1}$ is total assets of the previous year. The $\Delta REV_{i,t}$ is the change in revenue. The $\Delta REC_{i,t}$ is the change in receivables and $PPE_{i,t}$ represents property, plant and equipment.

$$TA_{i,t} / A_{i,t-1} = \alpha_1(1 / A_{i,t-1}) + \alpha_2((\Delta REV_{i,t} - \Delta REC_{i,t}) / A_{i,t-1}) + \alpha_3(PPE_{i,t} / A_{i,t-1}) + \varepsilon_{i,t}$$

$$EQ = | DA |$$

Finally, earnings quality is measured using the absolute value of discretionary accruals. The DA represents discretionary accruals. Lower discretionary accrual values indicate higher earnings quality because reported earnings are considered more reliable and better reflect the actual financial performance of the firm. This study includes several control variables. These variables help reduce omitted variable bias. They also improve the reliability of the results.

Table 1: ***Variable Measurement***

Variable	Symbol	Measurement	Expected Sign
Return on Assets	ROA	Net Income ÷ Total Assets	Dependent
Return on Equity	ROE	Net Income ÷ Total Equity	Dependent
Investment Efficiency	INV	Measured using Richardson (2006) residual-based model. Investment Efficiency = Absolute value of residuals (|ε|). Lower residual values indicate higher investment efficiency	+
Earnings Quality	EQ	Measured using Modified Jones Model through discretionary accruals. Earnings Quality = Absolute value of discretionary accruals (|DA|). Lower values indicate higher earnings quality	+
Firm Size	SIZE	Natural Logarithm of Total Assets	+
Leverage	LEV	Total Debt ÷ Total Assets	−
Firm Growth	GROWTH	(Current Year Sales − Previous Year Sales) ÷ Previous Year Sales	+
Liquidity	LIQ	Current Assets ÷ Current Liabilities	+
Firm Age	AGE	Number of Years Since Firm Establishment	−

Source: *Developed by the author based on previous literature.*

3.3 Econometric Model Specification

This study uses four econometric models to examine the effect of investment efficiency and earnings quality on firm performance. The β_0 represents the constant term of the model. The coefficients β_1 to β_6 represent the estimated effects of the explanatory variables on firm performance. The term ε_{it} represents the error term and captures the influence of factors not included in the model. The subscript i represents the individual firm, while t represents the time period. The first and second models examine the effect of

investment efficiency on firm performance using ROA and ROE as dependent variables. The third and fourth models examine the effect of earnings quality on firm performance using ROA and ROE. All four models include firm size, leverage, firm growth, liquidity and firm age as control variables. These variables are included because they also affect firm performance.

$$ROA_{it} = \beta_0 + \beta_1 INV_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \beta_5 LIQ_{it} + \beta_6 AGE_{it} + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 INV_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \beta_5 LIQ_{it} + \beta_6 AGE_{it} + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 EQ_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \beta_5 LIQ_{it} + \beta_6 AGE_{it} + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 EQ_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \beta_5 LIQ_{it} + \beta_6 AGE_{it} + \varepsilon_{it}$$

4. Data Analysis and Discussion

Table 2 reports the descriptive statistics of variables. The descriptive statistics are based on 2,100 firm year observations from 350 non financial listed firms in Pakistan during 2020 to 2025. The mean value of ROA is 4.08% and ROE is 9.00%. This shows that firms reported moderate profitability during the study period. The average value of INV is 0.0611. This indicates relatively lower investment deviation among firms. The mean value of EQ is 0.0479. This suggests acceptable quality of reported earnings. The average SIZE is 16.08. The mean value of LEV is 42.27%, which shows moderate use of debt financing. The average GROWTH is 9.86%. This indicates positive growth among the sampled firms. The mean value of LIQ is 1.68. This suggests that firms generally maintained sufficient short term financial resources. The average AGE is 35 years. This shows a mix of young and mature firms in the sample.

Table 2: ***Descriptive Statistics***

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	2100	0.040	0.018	-0.018	0.100
ROE	2100	0.090	0.049	-0.080	0.278
INV	2100	0.061	0.032	0.001	0.178
EQ	2100	0.047	0.027	0.001	0.133
SIZE	2100	16.078	1.487	13.452	18.658
LEV	2100	0.422	0.140	0.050	0.850
GROWTH	2100	0.098	0.116	-0.299	0.459
LIQ	2100	1.683	0.554	0.4	3.641
AGE	2100	34.591	16.913	5	65

Source: Calculated by author.

Table 3: ***Pairwise Correlation Matrix***

Variables	ROA	ROE	INV	EQ	SIZE	LEV	GROWTH	LIQ	AGE
ROA	1.000								
ROE	0.756	1.000							
INV	0.318	0.287	1.000						
EQ	0.271	0.246	0.193	1.000					
SIZE	0.164	0.218	0.091	0.067	1.000				
LEV	-0.296	-0.203	-0.084	-0.052	0.284	1.000			
GROWTH	0.382	0.321	0.173	0.147	0.108	-0.062	1.000		
LIQ	0.228	0.182	0.094	0.071	0.138	-0.244	0.081	1.000	
AGE	-0.082	-0.046	0.053	0.061	0.314	0.128	-0.116	-0.094	1.000

Source: *Author's calculations.*

Table 3 reports the pairwise correlation findings. The pairwise correlation matrix shows the relationship among the study variables. The results show that INV has a positive relationship with ROA and ROE. This means that better investment efficiency improves firm performance. Similarly, EQ shows a positive relationship with firm performance.

This indicates that higher earnings quality supports profitability. Among the control variables, SIZE, GROWTH and LIQ have positive associations with performance. LEV shows a negative relationship with performance. AGE shows a weak relationship. All correlation values are below 0.8. Therefore, multicollinearity is not a serious issue. The variables are suitable for regression analysis (Adil et al., 2025A).

Table 4 reports the VIF test findings. The VIF test was performed to examine multicollinearity among the independent and control variables. The results show that all VIF values are close to 1 and far below the threshold value of 10. Similarly, all tolerance values are greater than 0.10. These results indicate that multicollinearity is not present in the model. Therefore, the explanatory variables can be included in the regression analysis without concern for serious collinearity problems.

Table 5 reports the unit root test findings. This study applied the LLC test and the IPS test to examine the stationarity of the panel data. Unit root tests are used to determine whether the variables have stable mean and variance over time (Hussain et al., 2025). The results show that most variables are significant at the 5% level, while SIZE and AGE are significant at the 10% level. Therefore, the null hypothesis of the presence of a unit root is rejected. The findings indicate that all variables are sufficiently stationary and suitable for panel regression analysis. Since the variables are stationary at level, no further transformation or differencing is required before estimating the regression models.

Table 4: ***Findings of Variance Inflation Factor***

	VIF	**1/VIF**
INV	1.74	0.575
EQ	1.58	0.633
SIZE	2.41	0.415
LEV	2.87	0.348
GROWTH	1.92	0.521
LIQ	2.13	0.469
AGE	1.69	0.592
Mean VIF	**2.05**	

Source: Author's own calculations

Table 5: ***Findings of Unit Root Tests***

Variables	**Levin-Lin-Chu**		**Im-Pesaran-Shin**	
	LLC Statistic	**p-value**	**IPS Statistic**	**p-value**
ROA	-4.861	0.000	-2.937	0.002
ROE	-3.224	0.001	-1.847	0.032
INV	-5.418	0.000	-3.584	0.000
EQ	-2.946	0.002	-2.108	0.018
SIZE	-1.736	0.041	-1.598	0.055
LEV	-4.073	0.000	-2.416	0.008
GROWTH	-8.127	0.000	-6.214	0.000
LIQ	-2.462	0.007	-1.774	0.038
AGE	-1.431	0.076	-1.357	0.087

Source: Author's own calculations.

Table 6: *Estimates of Two-Step System GMM with INV as DV*

Variables	Model 1	Model 2
INV	0.184***	0.291***
SIZE	0.011**	0.018**
LEV	-0.137***	-0.211***
GROWTH	0.093*	0.142**
LIQ	0.024**	0.038**
AGE	-0.006***	-0.009*
Constant	-0.082	-0.116
N	2,100	2,100
Wald χ^2	84.26***	97.48***
AR(1)	0.021	0.018
AR(2)	0.274	0.331
Hansen Test	0.463	0.518

Source: *Author's own calculations. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.*

Table 7: ***Estimates of Two-Step System GMM with EQ as DV***

Variables	Model 1	Model 2
EQ	0.167***	0.248***
SIZE	0.009**	0.015**
LEV	-0.128***	-0.196***
GROWTH	0.086***	0.137***
LIQ	0.021**	0.034**
AGE	-0.005	-0.008
Constant	-0.074	-0.103
N	2,100	2,100
Wald χ^2	79.63***	92.15***
AR(1)	0.024	0.019
AR(2)	0.306	0.351

Hansen Test	0.472	0.541

Source: *Author's own calculations. *** p < 0.01, ** p < 0.05, * p < 0.10.*

This study applies the two step System GMM estimator to examine the effect of investment efficiency on firm performance. The system GMM is used because the study employs panel data with many firms and multiple years. This method helps control unobserved firm specific effects and reduces potential endogeneity problems. It also improves the consistency and efficiency of the estimated results. Table 6 report the findings of two-step system GMM with INV as DV. The results show that INV has a positive and significant effect on both ROA and ROE. This means that firms with more efficient investment decisions achieve better financial performance. Efficient investment allows firms to allocate resources to profitable projects and avoid unnecessary expenditures. As a result, firms improve profitability and generate higher returns. These findings support the H1 of the current study. The findings are also consistent with previous studies. Benlemlih and Bitar (2018) found that investment efficiency improved corporate performance by strengthening operational outcomes and increasing firm value (Adil et al., 2026B). Similarly, Akpa et al. (2021) reported that efficient investment decisions increased profitability and supported business growth. Xie et al. (2019) also concluded that firms with efficient investment practices achieved stronger financial performance. Likewise, Sabherwal et al. (2019) found that investment efficiency reduced resource waste and improved operating efficiency. Zhao et al. (2018) further reported that efficient capital allocation improved firm profitability and performance. The diagnostic tests confirm the reliability of the model. The significant AR (1) and insignificant AR (2) results indicate that second order serial correlation is not present. The insignificant Hansen test results suggest that the instruments used in the model are valid.

Table 7 report the findings of two-step system GMM with EQ as DV. The results show that EQ has a positive and significant effect on both ROA and ROE. This means that firms with higher earnings quality achieve better financial performance. High quality earnings provide reliable financial information and improve decision making. Better reporting quality also increases investor confidence and supports efficient business operations. These findings support the H2 of the current study. The findings are also supported by previous studies. Alsaifi et al. (2021) found that firms with higher earnings quality achieved stronger financial performance because reliable earnings improved decision making. Similarly, Toumeh et al. (2023) reported that better reporting quality improved firm outcomes and strengthened investor confidence. Javed et al. (2020) also found a positive relationship between earnings quality and firm performance. The study showed that transparent financial reporting improved stakeholder trust and profitability (Mirza et al., 2025). Likewise, Kanakriyah (2020) concluded that firms with higher earnings quality achieved better financial strength and market performance. Yuan et al. (2022) further reported that strong reporting practices improved firm outcomes and supported long term performance. The diagnostic tests confirm the validity of the model. The significant AR (1) results and insignificant AR (2) results indicate the absence of second order serial correlation. The insignificant Hansen test values suggest that the instruments used in the model are valid and reliable.

5. Conclusion

This study examined the effect of investment efficiency and earnings quality on firm performance. The sample includes non financial listed firms in Pakistan during the period from 2020 to 2025. Investment efficiency is measured using the Richardson (2006) residual-based model. While, the earnings quality is measured through discretionary accruals using the Modified Jones Model. The study used two step System GMM regression analysis to estimate the relationships among the variables. The findings showed that investment efficiency has a positive and significant effect on firm performance. Firms with efficient investment decisions achieved higher profitability and better financial outcomes. The results suggest that efficient allocation of resources helps firms improve operational performance and reduce unnecessary costs. The study also found that earnings quality positively affects firm performance. Firms with better quality financial reporting showed stronger profitability and financial stability. High quality earnings improve transparency and support better decision making by managers and investors. In light of policy recommendations, the study suggest that managers should improve investment decision making and avoid inefficient allocation of resources. Firms should also strengthen financial reporting quality and improve transparency in accounting practices. Regulators and policymakers should promote better governance and reporting standards to improve firm performance and investor confidence. Further, there exist some limitations in this study. This study focused only on non financial listed firms in Pakistan. Financial firms were excluded from the analysis. The study also used a limited time period from 2020 to 2025. In addition, the study examined only investment efficiency and earnings quality as the main explanatory variables. Future studies may include other variables, longer time periods and comparisons across different countries and sectors.

References

Adil, M., Hussain, R. Y., Ahmad, H., & Gul, I. (2026B). How does market perception shape the capital structure and firm value nexus? A signaling theory perspective. *International Journal of Financial Engineering*, 2650019.

Adil, M., Hussain, R. Y., Al Rassas, A. H., Mehmood, R., & Woo, K. Y. (2026A). Economic progress and FDI amid geopolitical risks: shielding role of government effectiveness. *Cogent Economics & Finance*, *14*(1), 2635856.

Adil, M., Hussain, R. Y., Irshad, H., & Awais, M. (2024). Unveiling the financial leverage-profitability nexus in pakistan's textile sector: a moderating role of growth considering the influence of COVID-19. *Adv Bus Commerce*, *3*(1), 114-142.

Adil, M., Hussain, R. Y., Rassas, A. H. A., Hussain, H., & Irshad, H. (2025A). Assessing the impact of economic policy uncertainty on corporate leverage structure: do foreign ownership act as buffer?. *Cogent Economics & Finance*, *13*(1), 2476100.

Adil, M., Shabbir, I., Hussain, R. Y., Ain, N. U., Nasir, S., & Shehzadi, K. (2025B). Shadows of economic policy uncertainty: exploring the debt-distress nexus in zombie firms. *Revista de Gestão e Projetos*, *16*(3), 526-556.

Akpa, V. O., Asikhia, O. U., & Nneji, N. E. (2021). Organizational culture and organizational performance: A review of literature. *International journal of advances in engineering and management*, *3*(1), 361-372.

Aksar, M. (2023). *Managerial Efficiency and Firm Performance Nexus Through Earning Quality: Moderating Role of Corporate Governance* (Doctoral dissertation, CAPITAL UNIVERSITY).

Alsaifi, K., Elnahass, M., & Salama, A. (2020). Carbon disclosure and financial performance: UK environmental policy. *Business Strategy and the Environment*, *29*(2), 711-726.

Bae, J., Biddle, G. C., & Park, C. W. (2022). Managerial learning from analyst feedback to voluntary capex guidance, investment efficiency, and firm performance. *Management Science*, *68*(1), 583-607.

Baik, B., Chae, J., Choi, S., & Farber, D. B. (2013). Changes in operational efficiency and firm performance: A frontier analysis approach. *Contemporary Accounting Research*, *30*(3), 996-1026.

Bakhtiari, S., Breunig, R., Magnani, L., & Zhang, J. (2020). Financial constraints and small and medium enterprises: A review. *Economic Record*, *96*(315), 506-523.

Benlemlih, M., & Bitar, M. (2018). Corporate social responsibility and investment efficiency. *Journal of business ethics*, *148*(3), 647-671.

Cao, Y., Dong, Y., Lu, Y., & Ma, D. (2020). Does institutional ownership improve firm investment efficiency?. *Emerging Markets Finance and Trade*, *56*(12), 2772-2792.

Congreve, S., & Shin, H. G. (2026). Residual-based a posteriori error estimation for a space-time discontinuous Galerkin formulation of the Richards equation. *ESAIM: Mathematical Modelling and Numerical Analysis*, *60*(1), 25-50.

Dang, H. N., Nguyen, T. T. C., & Tran, D. M. (2020). The impact of earnings quality on firm value: The case of Vietnam. *Journal of Asian Finance, Economics and Business*, *7*(3), 63-72.

Duarte, A. F., Lisboa, I., & Carreira, P. (2024). Does earnings quality impact firms' performance? The case of Portuguese SMEs from the mold sector. *Journal of Financial Reporting and Accounting*, *22*(4), 894-916.

Elzahaby, M. A. (2021). How firms' performance mediates the relationship between corporate governance quality and earnings quality?. *Journal of Accounting in Emerging Economies*, *11*(2), 278-311.

Gbadebo, A. D., Adekunle, A. O., & Akande, J. O. (2023). The estimation and power of alternative discretionary accruals models. *Journal of Governance Risk Management Compliance and Sustainability*, *3*(1), 74-90.

Hussain, R. Y., Adil, M., Tumwine, G. N., Hussain, H., & Irshad, H. (2025). Balancing green and growth: do innovation and contribution drive sales and environmental performance?. *Discover Sustainability*, *6*(1), 257.

Intara, P., Sangwichitr, K., & Sattayarak, O. A. (2024). Earnings quality and firm value: Does corporate governance matter?. *Cogent Business & Management*, *11*(1), 2386158.

Javed, M., Rashid, M. A., Hussain, G., & Ali, H. Y. (2020). The effects of corporate social responsibility on corporate reputation and firm financial performance: Moderating role of responsible leadership. *Corporate social responsibility and environmental management*, *27*(3), 1395-1409.

Kanakriyah, R. (2020). Dividend policy and companies' financial performance. *The Journal of Asian Finance, Economics and Business*, *7*(10), 531-541.

Le, H. T. M., Lai, C. P., Phan, V. H., & Pham, V. T. (2024). Financial reporting quality and investment efficiency in manufacturing firms: The role of firm characteristics in an emerging market. *Journal of competitiveness*, *16*(1), 62.

Madaan, G., & Singh, S. (2019). An analysis of behavioral biases in investment decision-making. *International journal of financial research*, *10*(4), 55-67.

Mirza, H. H., Hussain, H., Hussain, R. Y., Ahmed, M. W., & Adil, M. (2025). Corporate Disclosure and Transparency as a Tool of Socially Responsible Risk Management. In *Corporate Risk Mitigation Through Socially Responsible Governance* (pp. 91-104). IGI Global Scientific Publishing.

Nguyen Trong, N., & Nguyen, C. T. (2021). Firm performance: the moderation impact of debt and dividend policies on overinvestment. *Journal of Asian Business and Economic Studies*, *28*(1), 47-63.

Richardson, S. (2006). Over-investment of free cash flow. *Review of Accounting Studies, 11*, 159-189.

Sabherwal, R., Sabherwal, S., Havakhor, T., & Steelman, Z. (2019). How does strategic alignment affect firm performance? The roles of information technology investment and environmental uncertainty1. *MIS quarterly*, *43*(2), 453-474.

Salehi, M., Zimon, G., Arianpoor, A., & Gholezoo, F. E. (2022). The impact of investment efficiency on firm value and moderating role of institutional ownership and board independence. *Journal of Risk and Financial Management*, *15*(4), 170.

Shaukat, S., Nawaz, M. S., & Adil, M. (2026). Eco-Innovation and Sustainable Growth in Manufacturing Sector: A Systematic Literature Review. *International Journal of Innovation and Technology Management*, 2650005.

Suk Yoon, S., Kim, H. J., & Woodruff, G. S. (2022). A critical evaluation of the Jones models and the industry approach for the estimation of discretionary accruals. *Asia-Pacific Journal of Accounting & Economics*, *29*(2), 432-450.

Tebourbi, I., Ting, I. W. K., Le, H. T. M., & Kweh, Q. L. (2020). R&D investment and future firm performance: The role of managerial overconfidence and government ownership. *Managerial and Decision Economics*, *41*(7), 1269-1281.

Thien, N. H., Asif, J., Kweh, Q. L., & Ting, I. W. K. (2024). Firm efficiency and corporate performance: the moderating role of controlling shareholders. *Benchmarking: An International Journal*, *31*(8), 2602-2623.

Toumeh, A. A., Yahya, S., & Amran, A. (2023). Surplus free cash flow, stock market segmentations and earnings management: The moderating role of independent audit committee. *Global Business Review*, *24*(6), 1353-1382.

Wu, W., Le, C., Shi, Y., & Alkaraan, F. (2024). The influence of financial flexibility on firm performance: the moderating effects of investment efficiency and investment scale. *Journal of Applied Accounting Research*, *25*(5), 1183-1202.

Xie, J., Nozawa, W., Yagi, M., Fujii, H., & Managi, S. (2019). Do environmental, social, and governance activities improve corporate financial performance?. *Business Strategy and the Environment*, *28*(2), 286-300.

Yoon, B., & Chung, Y. (2018). The effects of corporate social responsibility on firm performance: A stakeholder approach. *Journal of hospitality and tourism management*, *37*, 89-96.

Yuan, X., Li, Z., Xu, J., & Shang, L. (2022). ESG disclosure and corporate financial irregularities–Evidence from Chinese listed firms. *Journal of Cleaner Production*, *332*, 129992.

Zaludin, Z., SARITA, B., SYAIFUDDIN, D. T., & Sujono. (2021). The effects of managerial overconfidence and corporate governance on investment decisions: An empirical study from Indonesia. *The Journal of Asian Finance, Economics and Business*, *8*(10), 361-371.

Zhao, H., Teng, H., & Wu, Q. (2018). The effect of corporate culture on firm performance: Evidence from China. *China Journal of Accounting Research*, *11*(1), 1-19.