INTRODUCTION OF THE STUDY

Financial reporting quality entails the capability of financial statements in disclosing, providing, and transmitting the firm’s financial and non-financial information as well as a comprehensive forecast of the future expected cash flows to the investors. Promulgation of high accounting standards keeps rank high of financial reporting which resultanty help the investors. The positive accounting theory suggests that financial reporting quality has two prominent dimensions i.e. signalling about the market and monitoring the managerial behaviour [1]. The repute of FRQ and accounting standard is attributed to various key factors, i.e. audit committee experience, and devotion, strict promulgation of the international Accounting standard board, creative mindset, and attitude of management [2]. The Financial reports are the key determinants of the accounting system which help the users in providing sufficient information in framing their economic decisions regarding the firm’s performance. This dimension of the accounting system helps to examine past activities and operations efficiently and to forecast the possible future dimensions in this regard [3]. The quality of financial reports is a predictor of a well-communicated information

Does financial reporting quality affect the investment efficiency of listed textile sector firms in Pakistan? A myth or reality

DOI: 10.35530/IT.073.02.202055

MUHAMMAD ZEESHAN IRFAN ULLAH
JIABIN HAN FAKHR E ALAM AFRIDI
ALAM REHMAN SHAMS UR REHMAN

ABSTRACT – REZUMAT

Does financial reporting quality affect the investment efficiency of listed textile sector firms in Pakistan? A myth or reality

The study investigates the relationship between financial reporting quality and investment efficiency in Textile sector firms listed on the Pakistan Stock Exchange, due to the reason of being the highest-ranked sector with a maximum number of listed firms in Pakistan. We use financial reporting quality as an independent variable, investment efficiency as a dependent variable, and the firm's annual cash, assets tangibility, and return on assets as control variables. We analyze 100 randomly selected firms for the period 2005 to 2019. The study applies various estimators, namely Pooled OLS, Fixed Effects, and Random Effects to identify which model better predicts results. The results demonstrate that firm’s financial reporting quality and ROA have a positive significant effect on the investment efficiency of these selected firms in all three models, but Random Effects Model estimates better coefficients than the counterparts. While the firm’s annual cash predicts a positive insignificant effect on the investment efficiency in the case of all competing models. Asset’s tangibility shows a negative significant effect on the investment efficiency of these firms. The study will help the academicians in their researches, decision-makers, and top management of this particular manufacturing sector in getting insight into framing and formulating their financial strategies.

Keywords: FRQ, investment efficiency, textile sector, random effect, Pakistan

Calitatea raportării financiare influențează eficiența investițiilor în firmele din sectorul textil din Pakistan listate la bursă? Mit sau realitate

Studiul investighează relația dintre calitatea raportării financiare și eficiența investițiilor în firmele din sectorul textil listate la Bursa de Valori din Pakistan, datorită faptului că este sectorul cel mai înalt clasat cu numărul maxim de firme listate în Pakistan. Folosim calitatea raportări financiare ca variabilă independentă, eficiența investițiilor ca variabilă dependentă și numerarul anual al firmei, activele corporale și randamentul activelor ca variabile de control. Analizăm 100 de firme selectate aleatoriu pentru perioada 2005–2019. Studiul aplică diversi indicatori de estimare și anume Pooled OLS, Fixed Effects și Random Effects pentru a identifica modelul care preconizează mai bine rezultatele. Rezultatele demonstrează că ROA (randamentul activelor) și calitatea raportări financiare a firmei au o influența pozitivă semnificativă asupra eficienței investițiilor acestor firme selectate în toate cele trei modele, dar Random Effects Model estimează coeficienti mai buni decât omnologii săi, în timp ce numerarul anual al firmei preconizează o influență pozitivă semnificativă asupra eficienței investițiilor, în cazul tuturor modelelor concurente. Activele corporale arată o influență negativă semnificativă asupra eficienței investiționale a acestor firme. Studiul îi va ajuta pe academieni în cercetările lor, pe factorii de decizie și pe top managementul acestui sector de producție special să obțină o perspectivă în încadrarea și formularea strategiilor lor financiare.

Cuvinte-cheie: FRQ, eficiența investițiilor, sectorul textile, efect aleatoriu, Pakistan

INTRODUCTION OF THE STUDY

Financial reporting quality entails the capability of financial statements in disclosing, providing, and transmitting the firm’s financial and non-financial information as well as a comprehensive forecast of the future expected cash flows to the investors. Promulgation of high accounting standards keeps rank high of financial reporting which resultanty help the investors. The positive accounting theory suggests that financial reporting quality has two prominent dimensions i.e. signalling about the market and monitoring the managerial behaviour [1]. The repute of FRQ and accounting standard is attributed to various key factors, i.e. audit committee experience, and devotion, strict promulgation of the international Accounting standard board, creative mindset, and attitude of management [2]. The Financial reports are the key determinants of the accounting system which help the users in providing sufficient information in framing their economic decisions regarding the firm’s performance. This dimension of the accounting system helps to examine past activities and operations efficiently and to forecast the possible future dimensions in this regard [3]. The quality of financial reports is a predictor of a well-communicated information
system of any firm which provides users more interested and accurate information of the firm’s cash flow information. The Financial Reporting Quality helps in establishing the Standards of Accounting, which promote useful information for the decision-makers [4]. Financial accounting information can be very useful in fostering investment efficiency by providing meaningful insight to the decision-makers and thereby enhancing the performance of the firm, the trust, and the confidence of the stockholders and shareholders. Disclosure of high-quality information reduces the cost of financing and market inefficiency and yields long-term returns [5]. The drastic change and innovation in technology have caused a new scenario for the customers and entrepreneurs in socio-economic disposition. It helps in changing the behaviour through excellent management of the organization’s rivalries. The firm’s management needs to be dynamic, innovative, and creative as the world is shifting towards a knowledge economy, where wisdom, innovation, and creativity are vital for survival and helps inaccurate information and communication which change the dynamics of the firm and efficiency is encouraged in the firm’s systems [6].

Accounting Information System is vital to deliver timely and accurate information, which helps the decision-makers to efficiently convey information to the public outside the firm [7]. The information provided in financial statements is the key source that helps to analyze asset quality in the decision process for financial reporting [8]. In designing an information system, it is important to evaluate various subsystems, which resultant lift the organization system of information. All firms are more driven towards adequate information and a true picture of the firm that will help managers in their decision-making process and would cause efficient and accurate decisions. Adequate information and making a decision based on this information resolve the issue of the firm regarding their accurate decision making, which eventually helps to achieve the firm’s objectives [9].

Similarly, Choe [10] views that the best accounting information system will have a huge effect on the firm’s overall performance. A well comprehensive strategy in terms of information disclosure over competitors will give a competitive edge to the dominant firm [11]. Similarly, Hassan [12] argues that management needs to provide financial reporting information that helps the users in their forecasting about cash flow from their investment. While Lobo and Zhou [13] assert that many world top scandals occurred due to low Financial Reporting as shareholders always focus on the reporting quality as a tool to encourage information and motivation of the stockholders. While some believe that FRQ helps to get a competitive edge over others in the same market and industry [11]. Mendoza and Yelpo [18] certified the importance of FRQ and proclaimed that accounting transparency is playing a significant role in the firm’s performance. Likewise, Li and Wang [19], also confirmed the importance of financial reporting quality in boosting the organizational size and performance and argued that FRQ practices with higher and greater frequency can affect the corporate real investment decisions. Admitting the positive outcomes of FRQ, Yeganeh and Taran [4] pointed out financial reporting as the strength of the firm, which can affect the firm size, performance, and investment decisions. Kinyariro [20], also confirmed the positive significant correlation

LITERATURE REVIEW

The area of financial reporting has been widely explored in the developed world, and the empirical literature can be found with greater frequency. Biddle and Hilary [17] examined publicly traded firms in the United States and argued that financial reporting quality significantly affects the firm’s investment efficiency. Similarly, some of the researchers confirmed that FRQ can encourage the disclosure of information and motivation of the stockholders [10]. While some believe that FRQ helps to get a competitive edge over others in the same market and industry [11]. Mendoza and Yelpo [18] certified the importance of FRQ and proclaimed that accounting transparency is playing a significant role in the firm’s performance. Likewise, Li and Wang [19], also confirmed the importance of financial reporting quality in boosting the organizational size and performance and argued that FRQ practices with higher and greater frequency can affect the corporate real investment decisions. Admitting the positive outcomes of FRQ, Yeganeh and Taran [4] pointed out financial reporting as the strength of the firm, which can affect the firm size, performance, and investment decisions. Kinyariro [20], also confirmed the positive significant correlation
between financial reporting quality and investment, which supports the findings of that school of thought, viewing FRQ as the tool to uplift the firm’s efficiency. Healy and Palepu [21] argue that accurate information is attributed to FRQ, as due to it, a better picture is shown, which is highly trusted by investors. And the true cash flow disclosure helps investors in making their accurate decisions. KHODAEI and YAHYAEI [22] reported insignificant nexus between FRQ and investment efficiency. In a similar study, Chen, Hope [23] confirmed the contribution of FRQ in a firm’s audit quality, management of leverage structure, and evaluation of financial structure. While, Flannery [24] argued that information efficiency will have a positive effect on the economy of the country in general, and the firm in specific. Berger and Udell [25], also validated a positive relationship between financial reporting and investment efficiency. While in contrast to those who believe that FRQ is positively and significantly associated with investment, Ortiz-Molina and Penas [26] reported an insignificant relationship between FRQ and investment efficiency. Similarly, Diamond [27], also reported an insignificant relationship between these two variables. Meyer, Becker [28] explored Chinese firms and argue that investment efficiency can be enhanced with proper financial reporting quality to boost the confidence and motivation of the stockholders. The same was confirmed by Child and Rodrigues [29] pointed out financial reporting as the strength of the firm, which can affect the firm size, performance, and investment decisions. Saghafi and Arab [30] found an insignificant effect of the FRQ on investment efficiency and similar results were obtained by another researcher [31]. Bharath, Sunder [32] asserted that financial reporting quality can enhance investment efficiency and help decision-makers. While some of the researchers argue that Financial Reporting Quality vitally contributes to the firm’s financial standstill and builds the investors’ trust [31]. Most of the researchers reported that financial reporting can make the decisions easy for the top management and help to enhance the volume of a firm’s assets and performance. Noravesh, Karami [7], also examined Iranian firms and found that FRQ can positively affect the investment efficiency. Likewise, Lai [33] argued that financial reporting quality is very vital for the firm’s success and carries a significant effect on the firm’s investment volume.

**RESEARCH METHODOLOGY**

**Hypotheses of the study**

H1: There is a positive significant relationship between financial reporting quality and investment efficiency.

H2: There is a positive significant relationship between return on assets and investment efficiency.

H3: There is a positive significant relationship between the tangibility of a firm’s assets and investment efficiency.

H4: There is a positive significant relationship between corporate cash holdings and investment efficiency.

**Data, sampling and sources**

This research investigates the Textile sector firms, so all listed firms in the Textile sector are the population of the study. The sample size represents the entire population for saving the time and resources of the researchers [34]. In the current research, the simple random sampling technique has been adopted. The study uses the data of 100 Pakistani Textile sector firms out of 145 listed firms on Pakistan Stock Exchange with maximum asset value for the period 2005 to 2019. The study covers the criteria of Roscoe [35], for the sample size and sufficiency, who argued that 10 times observations for each variable in the study are good enough. In the current research secondary data has been collected from the firm’s annual reports.

**Specification of the econometric models**

We use the panel data modelling approach due to the nature of the data. Hsiao [36] argues that panel data is superior to time series and cross-sectional data, due to its district characteristics. Panel data outline unobserved heterogeneity and provide a maximum number of data points, which resultantly causes more degree of freedom and drop down the issue of collinearity among explaining variables. Moreover, it combines both time series and cross-sectional data [37]. We follow previous studies that have used simple pooled OLS, Fixed Effect Model, and Random Effects Model [38]. Pooled OLS in an appropriate estimator to capture the individual effect as well as observable and unobservable variables. Moreover, pooled OLS generates efficient and consistent estimates of the explanatory variables [39]. We always expect a difference in the values of various variables across various firms in the same industry. If there are unobservable effects caused by heterogeneity, which are not isolated, they will keep volatile (inflating) the regression’s and capture heterogeneity, fixed-effects or random-effects models are used [38]. We apply the following pooled OLS, fixed effect, and random effect models.

**Pooled OLS Model**

\[ y_{it} = \beta_0 + \beta_1 x_{it} + \epsilon_{it} \]  \hspace{1cm} (1)

**Investment effect**

\[ \text{Investment eff} = \beta_0 + \beta_1 \text{FRQ} + \beta_2 \text{Annual Cash} + \beta_3 \text{ROA} + \beta_4 \text{Assets Tang} + \epsilon \]  \hspace{1cm} (2)

**Fixed Effects Model**

\[ y_{it} = \beta_0 + \beta_1 x_{it} + \alpha_i + \epsilon_{it} \]  \hspace{1cm} (3)

**Investment effect**

\[ \text{Investment eff} = \beta_0 + \beta_1 \text{FRQ} + \beta_2 \text{Annual Cash} + \beta_3 \text{ROA} + \beta_4 \text{Assets Tang} + \epsilon \]  \hspace{1cm} (4)

**Random Effects Model**

\[ y_{it} = \beta_0 + \beta_1 x_{it} + \mu_i + \epsilon_{it} \]  \hspace{1cm} (5)

**Investment effect**

\[ \text{Investment eff} = \beta_0 + \beta_1 \text{FRQ} + \beta_2 \text{Annual Cash} + \beta_3 \text{ROA} + \beta_4 \text{Assets Tang} + \mu + \epsilon \]  \hspace{1cm} (6)
Operational definitions and measurement

We use dependent, independent and control variables in this study, i.e., investment efficiency as the dependent variable, financial reporting quality as an independent variable, and cash, asset tangibility, and ROA as control variables. The study measures Investment Efficiency as the increase in the firm’s tangible plus intangible assets divided by the total assets of the firm. We follow the fundamentals of the previous researchers, who also similarly measured it [17]. We establish the following equation for investment efficiency:

\[ \text{Inv} = \beta_0 + \beta_1 \text{SG} + \mu \]  

(7)

where Inv is the sum of total investment and tangible assets increase over the period, SG – the change in sales growth. The Financial Reporting Quality in this research is measured through the Profit management calculation model, formally proposed by [15]. We ensure dividing all variables by the value of total assets at the beginning of the year. Residual of this equation represents a change in accounts receivable, which is not for a change in the sale. We use the absolute value of this figure multiplied by –1, describing the FRQ. A larger value in our case means higher FRQ. In this study, ROA is calculated as net profit/total assets. While cash is measured as the ratio of cash to total assets and Tangibility of assets predicts the ratio of fixed assets to total assets.

RESULTS DISCUSSION

Diagnostic tests

To satisfy the data for the feasibility of the analysis, heteroscedasticity, and autocorrelation were checked, in this regard, the following tests have been performed. The tests, s results demonstrate that there is no issue of heteroscedasticity and autocorrelation in the data, and the data is normal as all the reported results of these tests are insignificant which confirms no such issues in the data (table 1).

| Tests                         | X2   | Prob. Chi Sq. |
|-------------------------------|------|---------------|
| Breusch-Godfrey Serial Correlation LM test | 0.062 | 0.121         |
| Breusch-Pagan-Godfrey Heteroscedasticity test | 0.842 | 0.537         |
| Jarque-Bera test (Normality)  | 0.512 | 0.401         |

Pearson correlation analysis

Table 2 shows the correlation between a dependent variable and the independent variable of the study. Correlation is a statistical measure that talks about the direction and strength of the association between two variables. The results suggest that financial reporting quality positively significantly correlated with investment efficiency \( r = 0.17 \), meaning that an increase in financial reporting quality will enhance the investment efficiency of Textile sector firms in Pakistan. Similarly, cash and ROA also show a positive correlation with the firm’s investment efficiency, however assets tangibility shows a negative significant correlation with the investment efficiency of these listed firms \( r = -0.15 \). Cohen [40] has stated the level of significance of correlation that starts from 0.1 and further elaborated its various dimensions i.e., weak, moderate, and strong correlation.

Table 2

| Variables | InvtEff | F.R.Q | Annual Cash | ROA | Assets Tang |
|-----------|---------|-------|-------------|-----|-------------|
| InvtEff   | 1.0000  |       |             |     |             |
| F.R.Q     | 0.3476  | 1.0000|             |     |             |
| Annual Cash | 0.0689  | 0.0234| 1.0000      |     |             |
| ROA       | 0.3245  | 0.0564| 0.0389      | 1.0000|             |
| Assets Tang | -0.4148 | 0.0312| 0.3209      | -0.1467| 1.0000     |

Regression analysis

Table 3 shows the regression analysis of the study. The results validate random effect as the best estimator that is why we consider the values of this model. The results demonstrate that firm financial reporting quality has positive significant effect on the Investment Efficiency \( \beta = 0.1903, p<0.05 \), the same kind of significantly positive effect on the firm’s investment efficiency, has been documented by all three models. The results are in line with the findings of previous studies that argued that FRQ has a positive significant effect on a firm’s investment efficiency [41]. The results predicting a positive but insignificant effect of cash, annually hold by these firms on the investment efficiency \( \beta = 0.0679, p>0.05 \), in all three models. The findings of the study are confirming the results of some previous studies, which obtained a positive insignificant results for the annual cash [42]. The results also demonstrate that ROA has positive significant effect on the investment efficiency of these selected firms, as the corresponding probability value is significant at 5% \( \beta = 0.2439, p<0.05 \) in all three models, verifying the significant effect of financial performance proxy ROA on the investment efficiency of these Textile sector firms in Pakistan. Some previous studies also validated similar results [43]. The results predicting a negative significant effect of assets tangibility on a firm’s Investment efficiency, as the beta value and t-value are negatively and significant at 5% probability level \( \beta = -0.3675, p<0.05 \) in the models used in this study, verifying the negative significant effect of the asset tangibility on the investment efficiency of these sample firms. The results confirm the findings of some similar studies [43]. The R-squares reported are 26.187, 32.386 and 38.971 respectively by pooled OLS, Fixed Effects and Random Effects Model, validating that the random-effects model has better
explanatory power than the rest of the two models. The Wald chi value of the Random Effects Model is highly significant in comparison to the F-values of the counterpart models, this justifies and confirm that the Random Effects Model is a preferred model over the rest of the two models.

CONCLUSION

Financial reporting quality can enhance investment efficiency by declining asymmetries of information and developing the trust and confidence of the investors. In this competitive business world, financial reporting and corporate disclosures are vital for the efficiency and competitive performance of a firm. Pakistan Textile sector is one of the biggest sectors in terms of the number of listed firms. This study aimed to investigate the effects of financial reporting quality on investment efficiency. The study analysed Textile sector firms as representative of the manufacturing sector. We used various control variables along with the independent variable financial reporting quality. The study measured and calculated financial reporting quality and investment efficiency as per the models proposed by [17]. The Findings of the study are very much consistent with results documented by previous studies. The results demonstrate that a firm’s financial reporting quality and ROA have a positive significant effect on the investment efficiency of these selected firms, verifying the findings of past studies that predicted similar results [44]. While the firm’s annual cash predicts a positive insignificant effect on the investment efficiency confirming the results in line with previous studies [45]. However, asset tangibility shows a negative significant effect on the investment efficiency of these firms [46]. As the results in our study claimed the significant effect of the financial reporting quality on the investment efficiency, therefore firms in Pakistan should practice well adequate and internally certified accounting and reporting systems to entice investors’ confidence in buying the equity of the firm. Such attempts will help the profit maximization strategies of firms listed in the textile sector, and will be an eye-opener for the rest of the firms in other sectors to focus on their reporting quality. Central Bank should interfere in this regard to make the financial reporting quality of the firms more adequate and transparent. Based on the findings the Security and Exchange Commission of Pakistan should make various dimensions of corporate disclosure mandatory for listed firms in general, and the textile sector in particular. Moreover, the compliance of accounting standards that are acceptable internationally must be ensured in the prevailing financial reporting of these selected firms. Also, non-compliance regarding quality financial reporting must lead to the de-listing of the firm as a penalty announcement if found their failure during conduct of an audit by the professional auditor. Future studies should use the combination of both accounting base attributes i.e., accrual quality, persistence, predictability, and smoothness, and market base attributes i.e., conservatism, timelines, and value relevance in the context of Pakistan. Similar studies if conducted in the future can use the moderating and mediating effect of corporate governance, audit quality, and corporate disclosure. Moreover, in similar studies comparison of the manufacturing sector and financial firms can also be a vital addition to the literature. While SEM is also a better choice in future studies to cover the advanced modelling perspective. Moreover, a comparative study of Pakistani textile firms and Bangladeshi textile firms will also be a novel work. Our study is confined to textile sector firms which is why the results will not be generalizable to other sector firms. Secondly, different measurement techniques of the variables and a huge sample size may affect the results.

ACKNOWLEDGEMENT

I would like to extend my thankfulness to my supervisor Dr. Jiabin Han for his help and guidance in making sure this work has been carried out in a timely and suitable way. Project Name: National Social Science Fund Project (18BJL032).
REFERENCES

[1] Watts, R.L., Zimmerman, J.L., Towards a positive theory of the determination of accounting standards, In: Accounting Review, 1978, 112–134
[2] Westermann, K.D., Bedard, J.C., Earley, C.E., Learning the "craft" of auditing: A dynamic view of auditors' on-the-job learning, In: Contemporary Accounting Research, 2015, 32, 3, 864–896
[3] Bolo, G., Hassani, S., Earnings management and its measurement: A theoretical approach, In: Iranian Association of certified public accountants, 2007, 4, 12, 72–88
[4] Yeganeh, Y.H., Taran, A.S., Impact of implementing accounting standards 30 and 31 on information content of the firms listed on the Tehran Stock Exchange, 2015
[5] Levine, R., International financial liberalization and economic growth, In: Review of International Economics, 2001, 9, 4, 688–702
[6] Laudon, K.C., Laudon, J.P., Management information systems: new approaches to organization and technology, In: Upper Saddle River, NJ, 1998
[7] Noravesh, I., Karami, G., Wafi Sani, J., Corporate Governance mechanisms and agency costs of Listed Companies in Tehran Stock Exchange, In: Journal of Accounting Research, 2009, 1
[8] Rafee, S.Z., Rafee, S.Z., Heidarpour, F., The effective factors of financial information quality in listed companies on Tehran Stock Exchange, In: International Journal of Accounting and Financial Reporting, 2014, 4, 2, 201
[9] Koppenjan, J.F.M., Koppenjan, J., Klijn, E.-H., Managing uncertainties in networks: a network approach to problem solving and decision making, Psychology Press, 2004
[10] Bergo, J.A.N., Udell, G.F., The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle, In: Journal of Banking & Finance, 1998, 22, 6–8, 613–673
[11] Diamond, D.W., Ortiz-Molina, H., Penas, M.F., Are agencias a factor in the costs of firms in emerging markets? Afecta la discrecion de la gerencia al vencimiento de la deuda en las firmas chilenas? Un enfoque al costo de las agencias ya la informacion asimetrica, In: Ecos de Economia, 2016, 20, 43, 65–88
[12] Hassan, S.U., Financial Reporting Quality, Does Monitoring Characteristics Matter? An Empirical Analysis of Nigerian Manufacturing Sector, In: The Business & Management Review, 2013, 3, 2, 147
[13] Lobo, G.J., Zhou, J., Did conservatism in financial reporting increase after the Sarbanes-Oxley Act? Initial evidence, In: Accounting Horizons, 2006, 20, 1, 57–73
[14] Khalifa, M., Othman, H.B., Hussainey, K., Temporal variation and cross-sectional differences of accounting conservatism in emerging countries, In: International Journal of Accounting, Auditing and Performance Evaluation, 2016, 12, 1, 45–69
[15] McNichols, M.F., Stubben, S.R., Does earnings management affect firms’ investment decisions?, In: The Accounting Review, 2008, 83, 6, 1571–1603
[16] La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Corporate ownership around the world, In: The Journal of Finance, 1999, 54, 2, 471–517
[17] Biddle, G.C., Hilyar, G., Verdi, R.S., How does financial reporting quality relate to investment efficiency?, In: Journal of Accounting and Economics, 2009, 48, 2–3, 112–131
[18] Mendoza, J.A.M., Yelpo, S.M.S., To Survey the Relationship between Financial Reporting Quality & Investment Efficiency in Tehran Stock Exchange, 2010
[19] Chen, F., Hope, O.-K., Li, Q., Wang, X., Financial reporting quality and investment efficiency of private firms in emerging markets, In: The Accounting Review, 2011, 86, 4, 1255–1288
[20] Flannery, M.J., Using market information in prudential bank supervision: A review of the US empirical evidence, In: Journal of Money, Credit and Banking, 1998, 273–305
[21] Berger, A.N., Udell, G.F., The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle, In: Journal of Banking & Finance, 1998, 22, 6–8, 613–673
[22] Ortiz-Molina, H., Penas, M.F., Lending to small businesses: The role of loan maturity in addressing information problems, In: Small Business Economics, 2008, 30, 4, 361–383
[23] Diamond, D.W., Debt maturity structure and liquidity risk, In: The Quarterly Journal of Economics, 1991, 106, 3, 709–737
[24] Meyer, J.P., Becker, T.E., Vandenbergh, C., Employee commitment and motivation: a conceptual analysis and integrative model, In: Journal of Applied Psychology, 2004, 89, 6, 991
[25] Child, J., Rodrigues, S.B., The internationalization of Chinese firms: a case for theoretical extension?, In: Management and Organization Review, 2005, 1, 3, 381–410
[26] Saghafi, A., Arab, M.Y.M., Financial reporting quality and investment inefficiency, 2010
[27] Mohammadi, S.M., The relationship between financial reporting quality and investment efficiency in Tehran stock exchange, In: International Journal of Academic Research in Business and Social Sciences, 2014, 4, 6, 104
[32] Bharath, S.T., Sunder, J., Sunder, S.V., *Accounting quality and debt contracting*, In: The Accounting Review, 2008, 83, 1, 1–28

[33] Lai, K.-W., *The cost of debt when all-equity firms raise finance: The role of investment opportunities, audit quality and debt maturity*, In: Journal of Banking and Finance, 2011, 35, 8, 1931–1940

[34] Sekaran, U., Bougie, R., *Research Methods For Business, A Skill Building Approach*, John Willey & Sons, Inc New York, 2003

[35] Roscoe, J.T., *Fundamental research statistics for the behavioral sciences*, 1975

[36] Hsiao, C., *Analysis of panel data*, Cambridge University Press, 2014

[37] Yasser, Q.R., Entebang, H.A., Mansor, S.A., *Corporate governance and firm performance in Pakistan: The case of Karachi Stock Exchange (KSE)-30*, In: Journal of Economics and International Finance, 2011, 3, 8, 482–491

[38] Hongming, X., Ahmed, B., Hussain, A., Rehman, A., Ullah, I., Khan, F.U., *Sustainability Reporting and Firm Performance: The Demonstration of Pakistani Firms*, In: SAGE Open, 2020, 10, 3, 2158244020953180

[39] Shah, A., *The corporate cash holdings: Determinants and implications*, In: African Journal of Business Management, 2011, 5, 34, 12939–12950

[40] Cohen, J., *Set correlation and contingency tables*, In: Applied Psychological Measurement, 1988, 12, 4, 425–434

[41] Gomariz, M.F.C., Ballesta, J.P.S., *Financial reporting quality, debt maturity and investment efficiency*, In: Journal of Banking & Finance, 2014, 40, 494–506

[42] Bushman, R.M., Smith, A.J., *Financial accounting information and corporate governance*, In: Journal of Accounting and Economics, 2001, 32, 1–3, 237–333

[43] Biddle, G.C., Hilary, G., *Accounting quality and firm-level capital investment*, In: The accounting review, 2006, 81, 5, 963–982

[44] Goodwin, J., Ahmed, K., Heaney, R., *The effects of International Financial Reporting Standards on the accounts and accounting quality of Australian firms: A retrospective study*, In: Journal of Contemporary Accounting & Economics, 2008, 4, 2, 89–119

[45] Chen, S., Sun, Z., Tang, S., Wu, D., *Government intervention and investment efficiency: Evidence from China*, In: Journal of Corporate Finance, 2011, 17, 2, 259–271

[46] Shahzad, F., Rehman, I.U., Nawaz, F., Nawab, N., *Does family control explain why corporate social responsibility affects investment efficiency?*, In: Corporate Social Responsibility and Environmental Management, 2018, 25, 5, 880–888

Authors:

MUHAMMAD ZEESHAN¹, JIABIN HAN², ALAM REHMAN³, IRFAN ULLAH⁴, FAKHR E ALAM AFRIDI⁵, SHAMS UR REHMAN⁶

¹College of Business Administration, Liaoning Technical University, Liaoning province, XingCheng, China
e-mail: shanzeelnlu1922@gmail.com

²College of Business Administration, Liaoning Technical University, Liaoning province, XingCheng, China

³Faculty of Management Sciences, National University of Modern Languages, Pakistan
e-mail: amrehan@numl.edu.pk

⁴Reading Academy, Nanjing University of Information Science and Technology, China
e-mail: irfancon@nuist.edu.cn

⁵National University of Modern Languages, Pakistan
e-mail: Falaam@numl.edu.pk

⁶Assistant Professor, Northern University Nowshera, Pakistan
e-mail: Shams.mahsud@gmail.com

Corresponding author:

JIABIN HAN
e-mail:271339003@qq.com