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IMPACT OF FINANCIAL DISTRESS ON EARNINGS MANAGEMENT WITH THE MODERATING ROLE OF AUDIT QUALITY: EVIDENCE FROM PAKISTAN

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ABSTRACT

The core aim of the financial reports is to provide a firm's annual results of financial performance and position to stakeholders on time. Several accounting scandals led to the default of many large-scale corporations, leading to investors' lack of confidence in the reliability of financial information and also putting a question mark on the effectiveness of internal control mechanisms and external audits. Business managers of financially distressed firms use the choice of accrual accounting methods which gives them leverage to misuse their powers and expropriate stakeholders by showing good financial results. So, this study fills this gap by investigating the presence of Financial Distress (FD) and its effect on Earnings Management (EM) with the moderating role of Audit Quality (AQ). The sample of this study contains the data of 96 non-financial listed companies for the period 2017-2022 on the Pakistan Stock Exchange (PSX). This study uses the discretionary accruals as a proxy for the EM and Z-score for FD. The results and analysis find that FD and EM have a significant positive relationship, which reveals that corporate managers of distressed companies do EM while AQ weakens this relationship. This study recommends that professional bodies, regulatory authorities, and corporate governance institutions must design policies that restrict corporate managers from getting involved in earning management practices, especially in the time of FD.

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INTRODUCTION

The key purpose of the financial reports is to provide the firm's annual result of financial performance to the stakeholders (Saleh et al., 2023). In this regard, the prime duty of the management is to provide financial statements to the relevant stakeholders not only in a timely manner but also to ensure that all qualitative aspects of financial reporting standards are fulfilled. The annual reports are prepared on an accrual basis, which gives the liberty to record not only cash but credit transactions as well; this has been allowed by International Financial Reporting Standards (IFRS) and Generally Accepted Accounting Principles (GAAP). Therefore, accrual accounting helps professionals to measure the company's financial performance by applying accounting principles, which include revenue recognition, matching principles, and prudence (Azhar et al., 2022).

In response to financial disasters such as Arthur Anderson, WorldCom and Enron, the Sarbanes Oxley (SOX) Act 2002 was drafted and approved. SOX was introduced by Paul Sarbanes and Michael Oxley in 2002; the purpose of this law was to rebuild the public trust in the accounting and auditing profession and to assure ethical business practices, under the umbrella of corporate governance. Besides, a Public Companies Accounting Oversight Board (PCAOB) was also established to review the quality of audit of financial reports (Sarbanes, 2002). However, the managers occasionally use their discretion to gain their required results by way of Earnings Management (EM). These types of incidents occur when managers try to conceal the true and fair view of the firm from the stakeholders, and this can only be possible by the misapplication of accounting accrual principles to gain desired results by the management.

Similarly, if the management manipulates the accounting numbers to take advantage of accruals accounting to cater for their interest, then it surely destroys the faithfulness and applicability of the financial information, thereby misguiding the stakeholders (Dakhlallh et al., 2020).

The use of accrual accounting enables corporate managers to give a clear picture of the entity's performance which helps the investors to evaluate the future standing of the enterprise. However, if an income smoothing exercise is followed to mask true economic performance to benefit their interests, then it will be termed as Earnings Management (EM). It can be evidenced from corporate scandals like Enron and WorldCom that management tailored their financial reports to support their complex business transactions and carved fictitious investments to give a healthy financial view (Ronen, 2014).

There are many motives that can encourage the agents of the shareholders to window-dress the financial reports, which consist of but are not limited to stabilizing the share prices, personal gains, meeting the regulatory requirements, debt covenants, poor performance, hiding Financial Distress (FD), low growth etc. Specifically, when a firm is financially distressed, it may affect the decision-making ability of management and their behaviour (Kováčová et al., 2022). Therefore, to manage and meet the above objectives, management uses different types of EM, such as big bath, income smoothing, and cookie jar reserves etc. (Sultana, 2018). Healy (1985) big bath is a technique used in management as an income-decreasing tool. On the other hand, cookie jar reserve is a kind of accounting manipulation created in one period to be used in another financial year to smooth out the earnings.

According to Fachrudin (2020), a company is declared financially distressed if the total claims of the creditors are greater than the total assets of the firm. If a situation of being financially distressed stays for quite a long period then it can lead a firm towards bankruptcy (Bose et al., 2021). Prior literature suggests that a firm with a financially distressed status is more prone to hide its true performance and do EM to mislead stakeholders about its performance (Ranjbar and Amanollahi, 2018).

Due to the importance of financial statements, Selahudin et al. (2014b) are of the view that financial information is needed by many users. Therefore, manipulation of financial data or management discretion leads to decreasing the reliability of the information. Therefore, stakeholders find it difficult to evaluate the true economic picture of the company (Yasser and Soliman, 2018).

Earlier studies have shown that firms use EM to pursue multiple objectives, such as debt covenants as well as for hiding FD (DeAngelo et al., 1994). Whenever a company falls into the FD situation, a wide range of stakeholders, the country's economy and society at large are affected. Managers of distressed companies may have to face serious problems ranging from deterioration of the status, reduced bonuses and some threat of job loss (Godowski et al., 2020). Consequently, managers do EM; therefore, it is a matter of great importance for researchers to investigate the factors that motivate agents of shareholders to do EM.

Several authors examined the association between FD on EM (Malik et al., 2017; Li et al., 2020; Rakshit and Paul, 2020). Prior literature mostly showed that FD has a positive impact on EM, which depicts that those firms that are in FD normally go for EM. There are some studies that are conducted in Pakistan (Asim and Ismail, 2019; Malik et al., 2019) but remain limited. Based on these studies and other international evidence, to address the agency issues, the first Code of Corporate Governance (CCG) was introduced in Pakistan in 2002, and later, it was revised in 2012, 2017 and 2019. Therefore, this research paper aims to examine the influence of FD on EM with the novel moderating role of Audit Quality (AQ).

Literature Review and Hypotheses Development

According to agency theory, shareholders who are the principals of the companies appoint the directors known as their agents to run the company on their behalf; this is called an agency relationship (Jensen & Meckling, 1976). The agent-principle relationship is a two-party relationship where the director controls the company on behalf of the shareholders (Shapiro, 2005). Conflict of interest may arise if agents (directors) of the principals (shareholders) work for the sake of their interests; it is regarded as an agency problem. This issue motivates the directors to manipulate the earnings to report a better picture to the shareholders (Healy and Wahlen, 1999).

According to Jensen and Meckling (1976), disputes between principals (shareholders) and agents (directors) will become even more complex when shareholders want their investments to grow and managers want to maximize their benefits. This results in a conflict of interest which gives rise to managers making those decisions benefiting their interests. As a result, to hide the negative impact of their decision, directors do EM when the firm is financially distressed.

FD in public companies is a long matter of concern for governments and shareholders (ElRabat et al., 2023). FD depicts a condition in which a business is unable to pay its short-term liabilities in the near future. Maina and Sakwa (2017) define FD as a situation in which a company faces any sort of financial difficulty that may be termed bankruptcy or default.

On the other hand, ElRabat et al. (2023) define FD as a condition when the liquid asset of a business is not enough to meet its liabilities. Companies need liquid resources not only to run their day-to-day operations but also to settle their creditors, so if sufficient funds are not present firm will move toward FD (Kalbuana et al., 2023).

Financial Distress and Earnings Management

According to Kalbuana et al. (2023), internal and external factors contribute to the FD of a firm. Internal factors are those under the control of management, and external factors are not under the control of the management. According to Agrawal and Chatterjee (2015), FD is one of the various events which impacts the financial reporting behavior of the firm thereby using EM as an instrument to shuffle the stated performance. Ranjbar and Amanollahi (2018) find that firms that are FD are involved in more EM than non-distressed companies. Another study also finds that financially distressed firms do EM (Li et al., 2011). Campbell et al. (2015) revealed that firms do income-increasing EM before delisting from the stock exchange. Howe and Houston (2015) investigated the trend of distressed firms and found that earnings quality goes down in firms involved in EM.

Viana Jr et al. (2022) investigated the relationship between FD, EM and Big 4 auditors in emerging markets. The sample consists of 33,455 observations over a long period of 20 years and applied the technique of multivariate analysis. Empirical evidence showed that firms facing more FD are more involved in income-increasing accruals; results further depict that this relationship weakens when a firm is audited by a Big 4 Audit Firm (BAF). In another study, Mollik et al. (2020) tested the impact of AQ and audit committee on EM in Australia. The study period 2006-2009 is selected with a sample of 503 firm-year observations. The results showed that the level of EM increased during the global financial crisis as compared to the pre-financial period; results further revealed that AQ restricted EM during the pre-financial crisis period and not during the global financial period. Audit committee independence also reduces the level of EM.

Nagar and Sen (2019) analyzed the EM strategies during FD, the results of their study suggest that companies in the first few years of FD involved in EM just to improve the liquidity position and improve the ROA, and when FD becomes severe, they use income-increasing accruals management techniques intending to show improved performance. In another study, DeAngelo et al. (1994) assessed the methods of accounting in FD companies; results reflect that management in such companies do income-decreasing EM to achieve better contract renegotiations.

Previous research has demonstrated that companies employ EM to achieve a variety of goals, including debt covenants, to show better performance and the concealment of FD (DeAngelo et al., 1994). The economy of the nation and society at large are impacted whenever a company finds itself in FD, which affects a large number of stakeholders. Reductions in bonuses, status degradation, and even the possibility of losing their jobs are just a few of the significant issues that managers of failing businesses may have to deal with (Lowy and Sampson, 2016). Based on the aforementioned discussion, it may be assumed that the firms

having FD are more prone to EM. Therefore, the following hypothesis is developed:
H1: Financial distress has a positive impact on earnings management.

The Role of Audit Quality between Financial Distress and Earnings Management

DeFond et al. (2017) concluded that there is valid empirical evidence that the BAF is linked to higher AQ compared to non-Big 4 auditors. BAFs generally be able to restrict the extent of EM due to stronger incentives, which mainly stem from concerns about their reputation and potential lawsuits. As a result, according to Alzoubi (2018), the cost of client misreporting and its impact on an auditor's reputation are factors that Big 4 auditors are more aware of and are inclined to enforce, along with higher earnings quality. Given the serious reputational harm that litigation could cause, BAF scrutinizes financial reports more closely than non-BAF (Jones et al., 2018).
Based on the above-mentioned discussions, Viana Jr et al. (2022) provide empirical evidence indicating that companies in emerging markets that undergo audits by Big 4 auditors are more likely to show reduced levels of EM. Therefore, based on these discussions following hypothesis is developed:
H2: Firms audited by a Big 4 audit firm have a lower positive association between EM and FD.

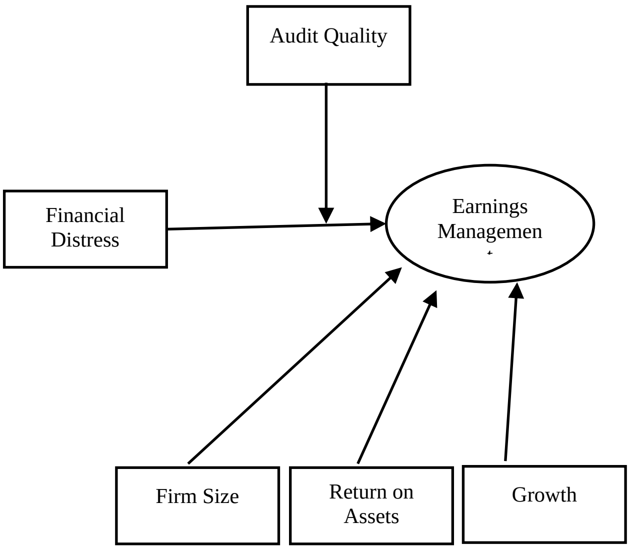

Figure 1. Theoretical Model.

METHODOLOGY

This quantitative study aims to study the FD-EM relationship with the moderating role of AQ. Figure 1 shows that FD is the independent variable and EM is the dependent variable of the study, while FS, ROA and GRO are the control variables. In this study, longitudinal data is used to test the hypotheses.

Sample and Data Collection

The population for this study contains all of the firms listed on PSX, and the technique of purposive sampling is used to draw the final sample. The total firms listed on PSX is 531 out of which 167 are financial firms. These firms are excluded because they have different legal, regulatory and reporting requirements. The final sample consists of 96 non-financial firms for the period 2017-2022. Data on these firms were collected from firms' annual reports and the reports issued by SBP. To calculate the results and to test the hypotheses Stata software was used.

Mathematical Models

Following are the mathematical models which were used to test the hypotheses:

$$EM = \alpha_0 + \beta_1 FD_{it} + \beta_2 FS_{it} + \beta_3 ROA_{it} + \beta_4 GRO_{it} + \varepsilon_1 \quad (1)$$

$$EM = \alpha_0 + \beta_1 FD_{it} + + \beta_2 FD * AQ_{it} + \beta_3 FS_{it} + \beta_4 ROA_{it} + \beta_5 GRO_{it} + \varepsilon_1 \quad (2)$$

Variables and their Measurement

Earnings management (Dependent variable)

EM is the dependent variable of the study, which was measured with Discretionary Accruals (DA). This is measured by using the MJ model as used in past studies (Alhadab et al., 2020). This study uses the MJ model to find out the discretionary accruals (DA), which is the proxy for the EM. To calculate the discretionary accruals, total accruals are calculated then the non-discretionary accruals are subtracted from it to find the discretionary accruals with the help of the MJ model. This study uses the MJ model 1991 to measure the discretionary accruals for EM (Alhadab et al., 2020). Prior literature also supports that the MJ model is the most powerful model for the calculation of discretionary accruals as it handles the cross-sectional differences in the economic environment very well (Anders and Shekou, 2011; Malik et al., 2017). Equation (3) is used to calculate the total accrual (Dechow et al., 1995).

$$TACC_{it} = EBEIT_{it} - CFO_{it} \quad (3)$$

$EBEIT_{it}$= Earnings before extraordinary items of firm i in year t
CFO_{it}= Cash flow from operating activities of firm i in year t
$TAAC_{it}$= Total accruals
The equation (4) is used by including the total accruals to generate the normal accruals, and residuals are saved as discretionary accruals (DA).

$$TAAC_t = \emptyset_1\left(\frac{1}{ASSETS_{t-1}}\right) + \emptyset_2(\Delta SALES_t - \Delta AR_t) + \emptyset_3 PPE_t + \varepsilon_t \quad (4)$$

$TAAC_{t=}$Total accruals (Difference between EBEIT and CFO)
$\Delta REV_{t=}$Change in revenue
$\Delta AR_{t=}$Change in accounts receivable
$PPE_{t=}$ Property plant and equipment
All variables are divided by the opening book value of total assets.

Financial distress (Independent variable)

FD is the independent variable of the study which was calculated by using the Altman Z-score (Altman, 1968). Z-score is the scale to measure the distress status which classifies a company to be a healthy one if its Z-score falls above 2.67, and a company will be called the FD company if its Z-score is below 1.81. The companies with a Z-score falling between 1.81 and 2.67 will be classified as grey-list companies (Demirkan and Platt, 2009). The companies with a Z-score value less than 1.81 are coded as 1 otherwise, 0.
Altman developed the following equation for calculating the Z-score:
Z =0.012B1+0.014B2+0.033B3+0.006B4+0.999B5
B1 = Working capital/total assets
B2 = Retained earnings/total assets
B3 = Earnings before interest and taxes/total assets
B4 = Market value of equity/total liabilities
B5 = Sales/total assets
Z = Overall index, the lower a company's Z-score, the higher its probability of going bankrupt.

Audit quality (Moderator)

In this study, the BAF (Deloitte, EY, KPMG or PwC) was used as a proxy for AQ and was used as a moderator of the FD-EM relationship. It was measured as a dummy variable (1, 0), it presumes 1 if a BAF audits the financial reports, and 0 otherwise.

Control variables

This study used three control variables, these are Return on Assets (ROA), Firm Size (FS), and Growth (GRO). FS was calculated by using the natural log of total assets (Zamri et al., 2013). ROA was calculated by taking the ratio of net profit and total assets (Lazzem & Jilani, 2018; Rasheed et al., 2023). The growth of the company was measured by the change in sales (Agrawal and Chatterjee, 2015).

Dependent Variable

Earnings Management (EM) = discretionary accruals were used as a proxy for EM (Alhadab et al., 2020).

Independent Variable

Financial Distress (FD) = was computed with the Altman Z-score (Altman, 1968).

Moderator

Audit Quality (AQ) = was computed as a dummy variable, 1 if a company is audited by a Big-4 audit firm, 0 otherwise (Viana Jr et al., 2022).

Control Variables

Firm Size (FS) = was measured by the natural log of total assets (Rasheed and Ahmad, 2022).

Return of Assets (ROA) = ROA measured by dividing net income by total assets (Rasheed et al., 2018).

Growth (GRO) = was measured by the change in sales divided by the opening book value of total assets (Agrawal and Chatterjee, 2015).

RESULTS AND DISCUSSION

This section shows the results and analysis, such as the descriptive statistics, correlation matrix, and final results of the regression. The descriptive statistics for each variable, including mean, standard deviation, minimum and maximum values, are shown in Table 1. Variance inflation factor also known as VIF stats, is a very useful test to check the problem of multicollinearity. The results of VIF stats showed that all the variables have a resulting value of less than 2.0, which confirms no issue of multicollinearity. Further, this was also confirmed by the correlation matrix, which is presented in Table 2. To check the autocorrelation, the value of Durbin Watson was observed and found that there is an issue of autocorrelation. The results of the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity also showed significant results, which meant that the data also had the issue of heteroskedasticity. The results of diagnostics showed the problems of heteroskedasticity and autocorrelation in the data, which could affect the final results of this research. Therefore, Generalized Least Square (GLS) regression was used to overcome these issues and to test the hypotheses and find the results of this study.

Table 1. Descriptive statistics.

Variable	Obs.	Mean	Std. Dev.	Min	Max
EM	576	0.012	0.091	-0.456	0.255
FD	576	1.258	1.125	-0.588	3.824
FS	576	8.876	1.410	5.621	12.051
ROA	576	4.976	12.116	-15.125	22.125
GRO	576	7.121	1.110	4.921	10.015
AQ	576	0.589	1.925	0	1

Table 2. Correlation matrix.

Variables	(1)	(2)	(3)	(4)	(5)
(1) EM	1.000				
(2) FD	0.572**	1.000			
(3) FS	-0.321	0.1014**	1.000		
(4) ROA	0.417**	-0.3345***	0.2081*	1.000	
(5) GRO	0.381*	0.0076	0.0996**	0.0286	1.000
(6) AQ	0.445*	0.761**	0.1268*	0.2255**	1.000

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

Financial Distress and Earnings Management

Table 3 shows the results of FD and EM, which include with and without moderating effects of AQ (Big-4 audit firms). The panel GLS regression showed that there was a significant positive (coeff. 0.0587541, p-value < 0.1) relationship between FD and EM. This suggested a positive relationship between the dependent and independent variables. It means that managers do EM whenever the firm is facing an FD situation to reflect improvement in their financial results.

The same results were also repeated in the second model, which included the effect of moderation. It showed that FD had a positive and significant (coeff. 0.0446132, p-value < 0.1) impact on EM; however, with a lower coefficient value, which suggested that the moderating effect of AQ weakened the association between FD and EM. In this same model, the interaction term (FD*AQ) was significant and negative (coeff. -0.0121, p-value < 0.05), which also supported the same findings. Therefore, it may be concluded that AQ weakened the positive relationship between FD and EM. Based on the above-mentioned results (FD-EM, coeff. 0.0587541, p-value < 0.1) and (FD*AQ, coeff. -0.0121, p-value < 0.05), both hypotheses (H1, H2) were accepted. These results are aligned with the results of Li et al. (2011), Campbell et al. (2015), Howe and Houston (2015), Ranjbar and Amanollahi (2018), Li et al. (2020), and Viana Jr et al. (2022).

Table 3. Regression results.

FD-EM Relationship		FD-EM Relationship with AQ as a Moderator
Variables	(1) EM	(2) EM
FD	0.0587541*	0.0446132*
	(0.035507)	(0.022107)
FD*AQ		-0.0121**
		(0.00520)
FS	-0.047512**	-0.049411**
	(0.019907)	(0.020806)
ROA	0.4432532***	0.4627411***
	(0.102179)	(0.101168)
GRO	0.0000742	0.0000431
	(0.000758)	(0.000398)
Constant	0.2379839*	0.2291266*
	(0.127999)	(0.1115)
Observations	576	576
Number of companies	96	96
Wald chi2(4)	20.56***	25.19***

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

The size of the firm is supposed to affect the degree of EM so it is used as one of the control variables of the study. It is evidenced from Table 3 that FS and EM both have a negative and significant relationship (Charitou et al., 2007; Chen et al., 2010; Habib et al., 2013; Selahudin et al., 2014a; Orazalin, 2020). Another control variable, ROA was used to control for the difference in profitability. Table 3 results show that ROA has a positive and significant impact on EM. The third control variable of the study is the growth of the firm. It is evidenced from the results that it has a positive but insignificant impact on EM.

CONCLUSION AND POLICY IMPLICATIONS

The main objective of the financial statements is to provide a company's annual result of financial performance and position to stakeholders on time. In the wake of big corporate collapses like Enron, WorldCom and others highlighted the interest in corporate governance practices among other corporations. Business managers of financially distressed firms use the choice of accrual accounting methods which gives them leverage to misuse their powers and expropriate stakeholders by showing good financial results. So, this study fills this gap by investigating the presence of FD and its effect on EM with the moderating role of AQ. The use of accruals accounting in financial reporting enables the firm to give a clear picture of entity performance which will help the investors to evaluate the future standing of the enterprise, but if an income smoothing exercise is followed to mask true economic performance to benefit their interests, then it will be termed as EM.

To test the hypotheses, data were collected from ninety-six companies which almost covers every sector of financial companies listed on the PSX. Company annual reports and the PSX website are the data sources for this study. Six years of data of ninety-six companies comprising 576 observations are collected from financial statements and the PSX. This study uses the MJ model to find out the discretionary accruals, which is the proxy for the EM. The GLS regression is used to resolve the issue of heteroscedasticity and autocorrelation in the data.

The results of this study showed that FD has a positive impact on EM, which indicates that firms that are in FD opt for EM. Further, the results of the moderating effect of AQ showed that audit from BAF reduces the positive impact of FD on EM.

It can be concluded that the appearance of FD will encourage the managers of the companies to get themselves involved in EM practices to mask the true performance of the firm. Further, it is also concluded that Big-4 audit firms weaken the relationship between FD-EM.

This research is equally useful for professional bodies, regulatory authorities, corporate governance institutions, and stakeholders of public entities in Pakistan and internationally. The results disclose that if a firm has FD, then the corporate managers will be involved in EM by using the discretionary accruals.

It can be concluded that professional bodies, regulatory authorities, and corporate governance institutions must design policies that restrict corporate managers from getting involved in earning management practices to achieve their short-term goals at the cost of long-term organizational goals thereby reducing the shareholder's wealth. This study also suggests that Big-4 audit firms hinder the FD firms from doing EM.

Limitations and Future Research Directions

This study includes only non-financial companies; furthermore, these companies are required to publicise their financial statements as a listing requirement. The reason is that non-listed companies are not required to disclose their information publicly. So, this can be a bigger constraint to generalize the results of this research to the whole population.

In the future listed financial sector can also be focused on finding the relationship between EM and FD. Additionally, a comparative study can also be conducted between the financial and non-financial sectors of Pakistan.

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