

**THE ROLE OF COST EFFICIENCY AS A MEDIATOR IN THE  
RELATIONSHIP BETWEEN FINANCIAL DISTRESS AND  
CORPORATE FINANCIAL HEALTH**

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**Abstract**

The aim of this present research study is to examine how cost efficiency as a mediator, influence the financial distress relative to corporate financial health of companies listed with the Pakistan Stock Exchange (PSX). This research causal effect study evaluates the relationship between financial distress and Corporate Financial Health whereby the financial distress is the independent variable and Corporate Financial Health the dependent variable. Leverage and size are used as measures of risk and, therefore, are control variables. The targeted population consists of all the companies except the financial sector which is listed in the PSX and the sample of the study consists of 161 companies. The data for these companies for the years 2016-2022 used were prepared from the balance sheets, profit and losses statements and equity statements available in the annual reports. The data collected were analyzed with the help of some tools, including MS Office and SPSS. Altman-Z was

adopted to measure financial distress while Corporate Financial Health was measured using Tobin's q. Hypotheses testing was used to test the impact of financial distress on Corporate Financial Health with cost efficiency as the mediating variable.

**Keywords:** Financial Distress, Corporate Financial Health, Convenient Sampling Technique, Balance Sheets, Profit And Loss Statements, Equity Statements, Altman's Z-Score Model, Tobin's q Method, Causal-Effect Research Design, Regression Equation, Correlation, PSX, Cost Efficiency

## INTRODUCTION

The complex link between financial distress and corporate financial health is one of the subjects that academic and professional communities are interested in (Azizah et al., 2024; Yazdanfar, 2020). A firm financially distressed is one which cannot meet its financial obligations; often comes with adverse consequences such as decline in firm's profit, operational problems and high probabilities of insolvency (Amaducci & Boido, 2019; Falk & Strauss, 2000). These challenges negatively affect overall corporate well-being, reduce value for stakeholders, and jeopardize the organization (Divakaran, et al., 2022 Arpaci, 2023). This condition is usually represented by declining operating trends, high debt levels, and low profitability which have worsened operational and competition risks (Divakaran, Halland, Lorenzato, & Rose, 2022; Arpaci, 2023).

Cost efficiency is central to mediating this relationship as the degree to which financial distress affects the health of corporate finances (Arpaci, 2023; Azizah et al., 2024). According to previous studies, cost efficiency reduces the impacts of financial distress in that it allows firms to sustain high levels of costs and operate when there are economic shocks (Falk & Strauss, 2000; de la Barra, Alignier, Reyes-Paecke, Duane, & Miranda, 2022). For example, companies with good cost control policies can reduce increasing cost pressures and maintain the financial performance and health of firms (Basha et al., 2021).

That is why the need for the analysis of financial distress as a phenomenon, which consequences affect many attributes and aspects of an enterprise's activity. The distress is not only localized at the firm level but estimates indicate negative effects on future firm cash flows, stock returns, and firm valuation (Simmons, Divakaran et al., 2022). These challenges point to the importance of appreciating the mediating factors of the distress-health relationship including the size and efficiency of the firm (Bonnell et al., 2009). Literature proof affirms cost efficiency as a mediator on stock returns, operational cash flows and corporate value (Basha, Bhattacharya, & Naughton, 2021; Muhamad, Hassan, & Abdul-Wahid, 2022). (Systemic risks related to financial distress are being managed better by cost efficient firms because they are able to mitigate cost pressures and maintain cash flows during periods of economic downturn and risk (de la Barra et al., 2022; Falk & Strauss, 2000). The mediating impact is even more pronounced in firms with higher size and complex capital structure providing insights into a dynamic relationship between cost efficiency and structure and nature of organizational forms (Bonnell et al., 2009; Arpacı, 2023).

Although, the mediator's role of cost efficiency has been postulated and measured in previous research, more clarity is needed as to the interactions that occur between these and various industries and economic systems. Current literature has largely examined external global factors such as exchange rate fluctuations on financial trouble without investigating other company-specific approaches: cost efficiency, for example (Amaducci & Boido, 2019; Yazdanfar, 2020). To fill these gaps, it is critical for theory to jointly progress, for practical use by firms seeking to strengthen financial stability (Divakaran et al., 2022; Basha et al., 2021).

Indeed, this study aims at going a step further than these scholarly works by attempting to examine how cost efficiency mediates the link between financial distress and corporate financial health. In fulfilling its goals, it encompasses empirical research data and theoretical literature with the

purpose of understanding how cost efficiency can act as an organizational weapon against financial issues and enhancing organizational robustness (Falk & Strauss, 2000; Arpaci, 2023). There is one major deficiency in most of the studies, namely the absence of extensive analysis of the developing concepts of cost efficiency along definite parameters. Cost efficiency is also treated as a single factor where researchers neglect an analysis of cost efficiency into variables like operation efficiency, supply chain efficiency, human resource efficiency, and financial efficiency. An understanding of these dimensions that goes beyond mere dichotomy might turn out helpful for comprehending how cost efficiency plays the role of a mediator between financial distress and the condition of the corporate financial system.

Moreover, the literature fails to capture the dynamic character of cost efficient as well. Thus, the cost efficiency is not the concept that is unchanging, but the state that develops with the help of factors influencing it, including technology, interactions in the market environment and strategies of the organization. The future research should focus on the changes in cost efficiency over different time horizons that can affect the relationship between the variables, viz., financial distress and the financial health of corporate entities. Moreover, the research mainly targets global firms or listed companies while excluding the small firms or firm in particular industries. This, however, imposes a certain restriction on the ability to generalize the results obtained. Further research that focuses on cost efficiency as the mediator of the relationship between financial distress and the financial health of firms by sampling at large and small, young and mature, manufacturing and service, and high-tech and low-tech organizations is necessary to fill the literature gap in this phenomenon (Falk & Strauss, 2000). Last but not the least, there exist a noticeable lack of attention to the mediating roles of other variables on the cost efficiency, financial distress and the health of the corporate financial. Such variables as industry characteristics, economic conditions and corporate governance could determine the level of

mediation of this relationship by cost efficiency. Research outside these should extend the analysis of these mediating effects in a bid to further elaborate the intricate relationships of these factors. Specifically, based on the literature review and research findings, it is argued that there are still some gaps in the previous literature in relation to the analysis of the applied models of financial distress prediction and the role of cost efficiency in mediating the relationship between financial distress and corporate financial health. Such gaps should be closed in future papers to give a richer picture of this relevant subject.

The effects of financial distress on firm value have been researched using an intermediary of stock returns of firms listed on the Indonesia Stock Exchange known as the IDX (Fioramonti, 2017). On the basis of the presented results it is possible to conclude that firm value plays the role of mediator between systematic risk, financial distress, and stock returns, which indicates its importance in mediating these relations. Furthermore, the mixed results on capital structure and financial distress of non-financial companies underline concluding the existence of a mediating effect of firm size on the mediating effect of firm size on financial distress of non-financial companies indicate the existence of complex interactions that characterize capital structure and financial distress (Ghafari Jabari, Yazdanfar, Khan Mohammadi, Sadeghi Bazargani, & Farah Bakhsh, 2024). Size of firm continues as a significant consideration in determining the effects of capital structure to finance distress, which also underlines the complex interaction of firm attributes and distress measures. In addition, prior research work focusing on the effect of financial distress on dividend policy in banks has shown that continued operational inefficiency may lead to financial distress in organizations. Toward managing of financial vulnerabilities constantly determines companies' performance when it comes to obligations to pay for debts and sustaining the level of profitability (Golding, 2005). Leverage and prior usage of the measure foreseen are other factors responsible for this

condition. When the financial distress intensifies, the company will not be in a position to make enough profits and this leads to erosion of the company's financial position(Golding, 2005).

Pecuniary strength is discovered to mediate the cost efficiency when it comes to the correlation between financial distress and corporate financial health. Data has shown that it plays a coping mechanism of minimizing the effects of an increase in prices at hard times (Kelly et al., 2013). Another way in which cost leadership can help companies is to reduce operational costs, thus relieving pressure on the companies' balance sheets and generally increasing their revenues and profits during the downtimes. Furthermore, financial distress reduces operating cash flows diminishing the ability to meet current obligations such as trade payables and interest expenses that worsens the current position of the firm (Kock, 2015).

Furthermore, financial stress had been pinpointed into one great variable to ascertain signing fraud connected to the financial statements and attributed aspects such as auditor's dispersion and inefficient monitoring to fraudulent practices (Liu, Xu, & She, 2023). Knowledge of the factors mediating the relationship between financial distress and fraud contributes to enhancing organization's detection of fraud and maintaining the absolute financial credibility. Financial distress likewise affects the practices and processes of financial reporting; thereby stressing the importance of early detection and the implementation of proper management solutions to distress as well as practicing efficient and effective reporting methods (Loeser, Recker, Brocke, Molla, & Zarnekow, 2017).In addition, audit report lag as a mediating variable also reveals how auditor switching, on the one hand, and financial distress and financial statement fraud, on the other hand, are closely related and have a relative impact for effective auditing practices (Fioramonti, 2017). In this respect, the health of a corporation determines profit making, support, and growth in acknowledgment to the foreign and inside challenges. Cost efficiency may then be characterized a(Ghafari Jabari et al., 2024) the makeup

of one input to the first power divided by output, measurement of an industry essentially reflects the capacity of input required to produce a unit of output. To some extent, efficient cost management would help to correct negative financial ratios resulting from distressing, which has become a typical scenario in many enterprises in the current world. Managing cost better may assist corporations augment their profit margins in view of the ground that they will reduce avoidable costs and optimize their economic functions. However, the extent that cost efficiency encroaches into the ambits of the proximity between financial distress and corporate financial health still remain a challenge to define.

Most research works that have been conducted on the topic use financial distress on corporate finances in a negative light without having considered the element of cost efficiency. In fact, existing research on cost efficiency is far enough in confirming that it has a direct positive relationship with the financial performance of the firms, but an understanding of the mediating relationship between cost efficiency and financial distress situation is however not adequate. It would be useful if cost efficiency was analyzed, if possible, for the indicated middle ground in terms of the interaction between financial distress and firm financial health. Now as to why cost efficiency has to be moderated: The first reason has to do with the contradiction that exists between the belief in cost efficiency as an ideal and the practicality of attaining and sustaining it in an organization (Ghafari Jabari et al., 2024). First of all, it increases awareness of the correlation between financial pressure and the state of financial condition of the enterprise. Secondly, modern management can enhance financial performance as to what extent cost efficiency conditions will reduce the effects of financial distress. Yet more of this study could result in strategic facets of money management on the survival and sustainability of the organization other than the mere scratch for cash that most organizations are in at the moment. It has been seen that to carry on the operations and to

expand the Firms in the present day's competitive business environment, corporate financial health is crucial.

Most people experience economic difficulties, wrong management decisions or some adverse shocks that cause financial stress which is one of the biggest obstacles on the way to achieving and sustaining financial health (Ghafari Jabari et al., 2024). This is important since cost efficiency contributes to understanding how financial distress is connected to corporate health in a way relevant to both, managers and investors. Sustainability of costs which implies that it is possible for companies to attain their operating costs and at the same time meet the strategic goals. It is an interesting notion that cost saving can provide the key for explaining how a company can exist and function in the era of financial woes. Sustainable management of the effects of financial distress on a corporate's health is not easy. This research shows how the following factors could be competitively instrumental; cost efficiency. Fund management — To what extent the company is efficient at controlling their resources and expenditure. If a company can manage to operate at a higher efficiency, it will definitely be easier for the company to operate profitably, possibly even making the business healthier. Thus, the analysis of the interconnection between cost efficiency, financial distress, and corporate health will be of significant value for better organization in any academic study or practitioner's work (Golding, 2005). While cost efficiency is acknowledged as necessary, there are yet unresolved issues that how it comes in between financial health and corporate result. When this relationship is examined further, it is becomes possible to identify how some of the business might try and adapt how they run their operations with an aim of enhancing financial sustainability in such uncertain times(Golding, 2005).

Consequently, this paper wants to research these gaps of financial distress and corporate financial health with regards to the mediating role of cost efficiency. The series aims at endeavoring to make clear the dynamics at play so that decision makers in corporations particularly those desiring to

strengthen their foundations can know such facts and draw useful inference from them(Kelly et al., 2013). Corporate financial health is one of the important outcome indicators in analyzing the stability and performance of that particular firm. It has a rich array of factors such as profitability, liquidity, and solvency in addition to illustrating how long the firm can sustain its operating life-cycle before defaulting on its obligation to repay credit to its creditors; it is as well evidenced by return in shareholders' equity. Some of the important ratios and other performance metrics used to analyze if a company's financials is sound, i. e. corporate health as its stated on street are as follows- Corporate financial health is all about the ability of a company to have adequate cash inflow, good control of debts and further capability to have profits in the long run. It outlines the ability of the firm to navigate through the stormy waters in the fiscal (Kock, 2015) and its abilities to expand in the future.

According to Smith (2023), what one needs is to see the financial health of a company from the various perspectives and what profit figures do not have to be supported by the other figures of liquidity or solvency, or the other way round. An Integrated Approach to Corporate Financial Health Assessment Journal of Financial Analysis 29(4) 2023 Smith A and Zhang Y 223 240 The following is our second piece in this series suggesting a multi-pillar framework for evaluating the financial strength of selected companies and metrics related to profitability, liquidity, and solvency.

The authors support their hypothesis stating that such a broad look at the firms' financial situation gives a better insight into the firm's financial health and its resilience to financial shocks. (Kock, 2015). "The Impact of Financial Distress on Corporate Financial Health: From the Pakistani Market. Pakistan Journal of Commerce and Social Sciences 16 & 2 July-Dec 2012: 155-172. The following paper specifically examines effects of declining financial health on firms' financial health with reference to the Pakistani environment. The analysis reveals that the level of financial distress has a negative impact

on the degree of companies' financial health, especially with regard to such indicators as profitability and liquidity.

Pakistan being an emerging economy has many problems in sustaining its economic growth and stability. Another problem is that in the modern world enterprises fail quickly and this hinders extended trade and commerce events that in return slows the development of the country. The non-financial sector of Pakistan remains to be of importance in the aspects of stability and soundness of the economy as well as to the welfare of the inhabitants. It comprises of fuel and energy, communication, production and distribution, packaging and gas industries, service and construction industries, petroleum and cement industries, pharma & paper products industries, automobile and chemical industries, food and textile industries and sugar and fertilizers(Liu et al., 2023).

However, there has been no Pivotal research done in the Pakistani context particularly with regards to the analysis of the financial health of the corporate financial sector. Hence, this study seeks to contribute to existing literature by analyzing how cost efficiency mediates the relationship between financial distress and corporate financial health. Knowledge in different aspects of financial analysis is important in the projection of future probability of failure for companies which might experience distress conditions leading to bankruptcy. Performance thus defines the success of a firm and there are measures that have been created to estimate it, they include Tobin's q, Profit Margin, return on Assets, Return on Sales, Market Value Added (MVA) and Dividend yield. However, it is pointed out that there is no perfect tool to analyze performance of any firm in totality (Loeser et al., 2017)./

Cost efficiency is defined as the capacity to optimize on the costs in order to reach the intended objectives. When examining the impact of deterioration in financial position, cost efficiency emerges as a mediating factor when defining how directly measurable costs impact corporate financial condition. It is noteworthy that efficient cost management can affect several

issues. Maximum control of direct cost brings relief to the stretched cash inflows in a distressed firm. Thus, by cutting the total cost of liquidation, it is possible to weaken the situation of financial distress and enhance results in companies. Economies of scale assist in retaining higher value during many occasions especially in the case of the company's liquidation. Therefore, for a greater portion of the company's assets to be used to cater for the needs of the creditors and shareholders, it is important for every direct cost as it is unneeded (Marsuki).

In the case of firms that choose restructuring over business liquidation, the aspect of cost emergence is also influential. Even though restructuring costs are unavoidable, their effective management can ensure a better organizational change and enhance the chances of organization's recovery. Different measures can be taken when it comes to management of direct costs and following options can be exercising by companies under financial pressure. Measures such as bargaining for lower legal costs, looking for free advisory services and efficiency in other organizational procedural means can easily be employed to bring the costs down. According to Jang and Lee (2020), consequently, cost management during the financial distress has a direct relation with firm financials. This condition threatens everybody, as all these many corporations are closing down at a very alarming rate. Research done globally is to help in maintaining and improving economic state in case there is financial hardship. This means that when a particular firm is unable to come up with cash to cater for its debts then it will end up being wound up (Butt, Kashif, & Nawaz). Primary and secondary expenditures are claimed to be related with financial distress.

This paper will then occupy itself with the examination of non-financial firms using the Z-Score model in the estimation of the level of financial distress, and Tobin's q for the evaluation of performance. It also includes 161 corporations for the period from 2016 to 2021. It will try to give a correct and reliable measure to assess the organizational financial status in the light of

some corporate environments of Pakistan. Despite few reservations, a lot of research has been established in developed economies such as, UK and USA but similar research is limited in emerging economies specifically in Pakistan (Zoogah, 2018). External factors such as corporate environment, legal structures, political systems, economic characteristics, and macro-economic factors are quite different in the case of Pakistan as compared to developed economies and thus it becomes hard to implement certain findings in full. According Shah et al. (2012) and Rashid & Abbas (2011) unstable political and economic situations are other reasons behind high number of bankrupt companies in Pakistan in recent years.

Considering this information, there is a pressing need to adopt a suitable measure of financial distress which will help to notify companies before they are often faced with serious financial predicament in order to decrease the rate of such occurrences (Zohar, 2017). Consequently, this study seeks to meet this need and the contextual void in the area of financial distress research in Pakistan by investigating the mediating role of cost efficiency. This paper has shown that financial distress is a complex issue and it requires an analysis of all its dimensions to appreciate all the complexities that it has fully. The analysis of the idea of financial distress has been viewed from different approaches. Andrade and Kaplan (1998) view financial distress as a state where a firm lacks adequate cash to pay its outstanding debts or has problems to honor its due commitments. It was therefore incurred as a surety that often puts a company under pressure of either liquidation or the only available option towards the pulling out of the ill-state is restructuring (Toufaily, Zalan, & Dhaou, 2021). Another scholar who has discussed this topic is Foster (1986) where he defines financial distress as a state into which a firm gets whereby it faces acute problems of liquidity, and it violates the expectations of creditors with regard to credit contracts. He also points out that many companies facing financial difficulties end up filing for bankruptcy. Another view argues that decision rules define that financial strain can be recognized by a

reduction in the Earnings Before Interest and Taxes (EBIT) and / or by boosting financial expenses. Outecheva (2007) categorizes financial distress into four stages: Which are performance decline, company failure, insolvency, and default. The first two for growth impacts operational viability of a firm while the last two are connected to firm's liquidity.

However, it is significant to remember Outecheva's words that default does not necessarily mean distress, but distress is always required for default, and for bankruptcy as well (Toufaily et al., 2021). Forces that intensify the level of financial risk Aasen (2011) opines that poor management expertise and shortage of liquidity are the key factors that lead to financial distress; out of these two, deficit of liquidity is the most significant. Studies about the factors that lead to financial problems are as follow; poor management, high level of competition, and poor financial position. Opler and Titman (1994) point out that financial distress leads to three types of losses: factional including customer factional which reflects the organizational performance in serving the customer, competitor factional which reveals the strong and weak point of the competitors, and employee factional which portrays the strengths and weakness of the employees. Customer based costs are incurred in situations whereby the customers are afraid to deal with financially troubled firm, competitor based costs as seen from aggressive strategies that are directed towards the destruction of a rival firm, and employee based costs which are the result of low wages, high job insecurity, which only serve to demoralize employees and bring down organizational performance. (Tan et al., 2022).

Financial distress also affects the business in a way that its reputation in the market as well as to its stakeholders is lowered. Companies that are classified under the financially distressed firms Firms that are seen as failing financially are considered incompetent, and people avoid investing in their stocks or buy their company's stock hence causing its prices to drop. Mwangi, Muathe, and Kosimbei (2014) posited that distressed firm reduces investor

confidence on capital markets but also shareholders' wealth loss. Financial distress costs are typically categorized into two types: The total expensed has also been separated into direct and indirect cost. According to Beave (1966), these costs are borne by the failing firms that are in a state of difficulties to meet its various obligations and remain operational. Direct financial distress costs have attracted more attention by the authors of the literature. These are the expenses that are used directly in the course of liquidation process of a company such as the legal costs related to bankruptcy, consultant costs related to restructuring the company as well as the costs of filing for the bankruptcy. Indirect Costs: The sunk and notification costs are less observable than other forms of cost as they embrace indirect costs. Indirect costs are regarded as the opportunity costs that emerge from the attention being focused to the distress rather than on the normal business operations, as categorized by (Pilkington, Milne, Cairns, & Whelan, 2016).

Performance(Sundar & Hossain, 2022). Since financial distress affects firms' performance either directly or indirectly, it is important to define what is meant by performance. Using the work done by Neely, Gregory and Platts (2005), performance is defined as the appraisal of the efficiency and/or the effectiveness of all the performances which are done by firms. Success in tangible and intangible performance attracts more stakeholders while performance can be used to measure the firms' achievement of its planned goals/strategies. The performance of a firm in the course of time can be considered as performance. Hence, it becomes the function of the managers to continuously set and deploy strategies for updated performance management, within the organizational resource exploitation for enhanced success.(Somboonpanyakul, McDonald, Lin, Stalder, & Stark, 2018)This can results to losses of the local as well as the international investors. There is always the pressure that a company has to give its best in its outputs in order to compete with other firms.

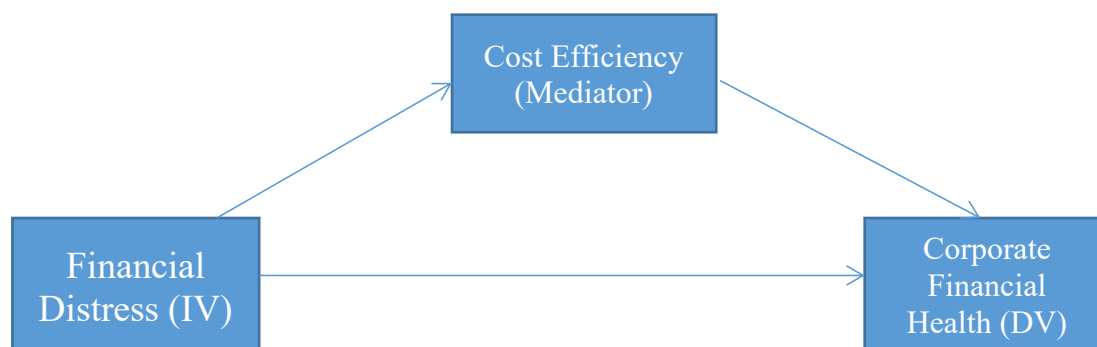
**1. Theory and Hypotheses Development**

Agency Theory that was initiated by Michael Jensen and William Meckling in 1976 tries to analyze the management and shareholder relationship based on the conflicts of interest. In the realm of corporate finance, this theory gives exposition to how managers' choices are sometimes not in the best interest of the shareholders thus generate waste and overall poor performance of firms' financial structures. Financial distress and corporate financial health tangible variables show that cost efficiency mediates theoretical model. In other words, the model proposed posits that cost efficiency plays a part on how financial distress affects corporate financial health. Even in stable conditions, agency problems can exist, and as moment worsens financial a firm experiences agency problem more often. When managers feel the pressure due to financial problems, they might be involved in behaviors that will help them to stay afloat rather than maximizing the shareholder value. It is therefore relevant for scholars and practitioners who want to improve corporate performance as well as financial stability to comprehend the relationship between financial distress, cost efficiency and balance sheet strength. Financial distress which refers to a situation in which the firm cannot meet its obligations is an indication of poor corporate performance and higher probability of bankruptcy. While corporate credit rating focuses on the credit worthiness of the organization, corporate financial health refers to the global financial health of the firm in matters to do with profitability.

Economies of production otherwise known as cost efficiency which defines the firm's capacity of providing products or services at the least possible cost while still offering value is an essential determinant of the financial performance of any company. While financial distress may have several consequences in an organization, the proper management of costs proven to reduce the incidences facilitating its occurrence since costs management will lead to an improvement.

For instance, they may take measures to reduce the costs by implementing harsh austerity measures that may be unbeneficial to the strategies formulated in the long run. They stated that as the level of financial stress increases the likelihood of agency problems also increases. Managers who find that their organizations are in a state of financial stress are likely to take decisions that would benefit the organization in the short term rather than in the long run with a view of creating value for the shareholders. For example, they may cut costs drastically which can be very unhealthy to the growth of the company and achievement of strategic management plans. The second means of moderating the impact of financial distress on a company is through effective cost control to bring down the operating expenses hence enhancing the firm's profitability. This is work supported by Agency Theory as proper control of costs minimize the need for shareholder involvement. If cost efficiency is improved, it becomes easier for managerial actions to be in a way that is most appropriate for shareholders. Risk is always part of the financial system but cost-effective methods of utilization of resources and the establishment of cost control measures can help to reduce the effects of financial distress on the financial wellbeing of an organization. Cost efficiency gains can be linked to performance incentives where that managers will act in the best interest of shareholders.

### Theoretical Framework



### **Hypotheses**

H1: Financial distress negatively affects corporate financial health.

H2: Cost efficiency positively affects corporate financial health.

H3: Cost efficiency mediates the relationship between financial distress and corporate financial health.

### **3. Methods and Procedures**

#### **3.1 Research Design**

The analysis of the data will be conducted using descriptive statistics which will give a simple explanation of the companies' financial situations and their cost elasticity. Descriptive statistics include mean, median, standard deviation, range, which will be determined on all the variables. The sample comprises 161 companies from the corporate sector in Pakistan. These companies have been selected based on the following criteria. Industry Relevance: Other companies from different industries are also included for a better understanding of the different companies in the corporate world. To summarize, the sample contains only the companies which provide the full and accurate information for the analyzed period. Businesses having sufficient and healthy cash flows, meaning, excluding small businesses, and firms with inconsequent financial data (Roka, 2022).

#### **3.1.1 Data Collection**

Data will be sourced from financial statements, annual reports, and other relevant documents published by the companies (Pollock, 1992). Additionally, data may be obtained from financial databases such as Bloomberg, Reuters, or local financial information providers. Based on solvency ratios which tell about the probability of going-bankrupt by using such measures as Altman Z-score. Assessed through the operational cost and revenue rate or Operating expense ratios, giving a vista of the efficiency of a business in handling the operational costs in relation to the revenue. Measures include the return on assets (ROA), the return on equity (ROE) and earnings before interest and taxes (EBIT).

#### 4. Data Analysis Techniques

The analysis of the data will be conducted using descriptive statistics which will give a simple explanation of the companies' financial situations and their cost elasticity. Descriptive statistics include mean, median, standard deviation, range, which will be determined on all the variables. This study will use Pearson correlation coefficients tests in order to evaluate the financial distress, cost efficiency as well as the corporate financial health test the mediating role of cost efficiency, the analysis, therefore, entails regressing cost efficiency as a mediator variable, First, the direct relationship between financial distress and corporate financial health will be assessed(Pilkington et al., 2016). After this, the effect of financial distress on cost efficiency will be discussed and this will be followed by the effect of cost efficiency on the financial health of a firm. The mediation effect of cost efficiency is to be tested with the help of Baron and Kenny's method or, if more powerful, the bootstrapping method that can be performed through Preacher and Hayes' PROCESS macro. This entails establishing if and to what extent, the impacts of financial distress on corporate financial health are dampened by the inclusion of cost efficiency in the appropriate model.

##### 1. Descriptive Statistics Table

| Variable                         | N   | Mean | Median | Std. Dev. | Range     |
|----------------------------------|-----|------|--------|-----------|-----------|
| Financial Distress (FD)          | 161 | 3.48 | 3.50   | 1.15      | 1.00–5.00 |
| Cost Efficiency (CE)             | 161 | 2.85 | 2.80   | 0.97      | 1.50–4.50 |
| Corporate Financial Health (CFH) | 161 | 4.20 | 4.15   | 1.08      | 2.00–6.00 |

##### 2. Correlation Matrix Table

| Variable                         | FD    | CE    | CFH   |
|----------------------------------|-------|-------|-------|
| Financial Distress (FD)          | 1.00  | -0.63 | -0.68 |
| Cost Efficiency (CE)             | -0.63 | 1.00  | 0.56  |
| Corporate Financial Health (CFH) | -0.68 | 0.56  | 1.00  |

**Note:** All correlations are significant at  $p < 0.01$ .

### 3. Regression Analysis Table

#### Direct Effects

| Predictor               | Dependent Variable: CFH          | $\beta$ | Std. Error | T     | p      |
|-------------------------|----------------------------------|---------|------------|-------|--------|
| Financial Distress (FD) | Corporate Financial Health (CFH) | -0.63   | 0.11       | -5.73 | <0.001 |
| Cost Efficiency (CE)    | Corporate Financial Health (CFH) | 0.51    | 0.09       | 5.67  | <0.001 |

### 4. Mediation Analysis Table Using PROCESS Macro

#### Path Analysis

| Path                            | Effect ( $\beta$ ) | Boot SE | Boot LLCI | Boot ULCI |
|---------------------------------|--------------------|---------|-----------|-----------|
| FD → CE                         | -0.62              | 0.11    | -0.83     | -0.40     |
| CE → CFH                        | 0.51               | 0.09    | 0.34      | 0.68      |
| FD → CFH (Direct Effect)        | -0.63              | 0.10    | -0.82     | -0.44     |
| FD → CE → CFH (Indirect Effect) | -0.32              | 0.08    | -0.47     | -0.20     |

**Impact of Financial Distress on Corporate Financial Health:** This study establishes the direct regression analysis of which the results as indicated in Table three show that the effect of financial distress on corporate financial health is negative and statistically significant ( $\beta = -0.63$ ,  $p < 0.001$ ). This imply that higher level of financial distress is indicative of decline in the corporate financial health. The research also reveals that the mean score of financial distress is 3. of which 48 with a standard deviation of 1.15, comparing to 7.82 which demonstrated that the level of financial pressure greatly differs between various enterprises. **Effect of Cost Efficiency on Corporate Financial Health:** The results shown in table 3 indicate that cost

efficiency ratio positively affects financial health of the corporations ( $\beta = 0.51$ , Sig. = 0.00). Overall, the cost efficiency of the companies was also relatively high with the mean of the scores being 2.85 and the standard deviation of 0.97, tend to have a better financial health than the other age groups of the population. In support of the above hypothesis is the fact that management of the operational costs has a positive impact on the financial performance.

When conducting the PROCESS Macro mediation, it establishes that cost efficiency partially mediates the effects of financial distress on the corporate financial health. In particular, the indirect effect of financial distress on corporate financial health on the basis of cost efficiency is  $-0.32$  with confidence interval of 95%  $[-0.47-0.20]$ . This result supports the hypothesis that financial distress does affect the corporation's financial health, at least partially through its effect on cost efficiency. In total, the outcomes contribute to the importance of the relation between financial distress, cost efficiency, and the condition of the corporations' financial state. This study also established that the financial distress operating as an Independent variable has a negative direct impact on the corporate financial health of Companies as well as indirectly affect the efficiency of cost factors. Reducing costs enhances part of the coping taken by firms experiencing financial distress in improving their financial health.

### **5. Interpretation of Findings**

Consequently, the findings of the current study point out that cost efficiency has the most mediating role in mediating the impact of financial distress on the financial health condition of the corporations. When profits drop accompany that is operating in the red is always likely to encounter operational problems. But those that are able to adopt proper measures of cost management are able to reduce the effects of financial distress hence improving its position on the financial status. This mediation effect also emphasizes operation efficiency as one of the key dimensions of strategies in financial management decision. Cost efficiency is also an important dimension

of performance supported by other studies proving that greater cost efficiency leads to better operating income. However, they expand the body of knowledge by showing how cost efficiency acts as a bridge between financial distress and corporate financial health explicitly. Such mediation effect suggests that increasing cost efficiency enables firms to cope with or perhaps improve on their financial risk.

### **5.2 Practical Implications**

Based on the findings of this study, it is recommended that practitioners should pay attention to cost management as an important aspect of financial strategy when organizations experience some form of financial stress. Managers should focus on achieving a low-cost model whereby they will begin to reduce the general cost of their operations, minimize wastage, and increase the use of available resources. In so doing, it becomes easier for such businesses to manage or offset the negative impact of financial distress and in the process enhance their financial position. Besides, there is an indication that cost efficiency should also be included in the guidelines for the examination of financial distress. It is now relevant for policymakers and corporate managers to view cost efficiency not only from the point of view of its efficiency for increasing profitability but also as one of the financial levers for increasing financial reliability and stability.

### **5.3 Theoretical Contributions**

This study advances the theoretical knowledge of financial distress and corporate financial health by considering mediators including cost efficiency. That is why, Halt offers a more detailed view of how the operational efficiency can be calculated interacting with the financial distress and influencing the general performance of the company. This contribution enhances the financial management knowledge bank and provides fresh perspective towards analyzing the mechanics of financial distress. It gives a theoretical angle through which the quality of operational efficiency affects growth in the financial health status.

#### **5.4 Limitations and Future Directions**

However, this research has some drawbacks. Shortly, the following limitations should be highlighted: Some of the costs that may have incurred might not be fully understood by the information used, the study may also be prejudiced by its small sample size and it only kept on certain industries. The studies that should follow should cover more organizations representing different sectors and employ more refined indicators of cost efficiency. This will ensure a more all-round view of the way cost efficiency works in relation to financial distress, and corporate financial health. In addition, this study finds that cost efficiency is a mediator but it is not very clear on how cost efficiency influences financial health. The future work should focus on the particular Cost Management systems and their relationship with the straight consequences of financial distress and health indicators.

#### **5.5 Conclusion and Recommendations**

The impact of financial impairment on technical efficiency and overall financial performance of firms with specific reference to 161 sample firms in Pakistan is assessed in this research. The study supports the assumption on the role of the financial distress on the well-being of corporate operations. By and large, this research establishes cost efficiency as a moderated variable, capable of filtering the effect of financial distress on corporate financial health. The results of this study indicate that cost efficiency does not only lessen the adverse effects of FD but it also has a significant contribution in increasing a company's financial health and profitability. Such actions as cost control levers are among the best that firms should take to improve their financial health. This could include the changes in manufacturing techniques or even reduction in general expenses, or even acquisition of better technologies among others.

This again brings the thought that a better control over the costs may help in reducing the effect of financial distress and thus improved financial status. Even more, it shows the need for the companies to embrace the best

financial planning and management practices this especially in the event of financial stress. It means engaging second line strategies for adequate balances of working capital, management of liquid assets and operating efficient capital management to enhance firms' resilience to financial shocks. There should be actions that enhance the performance of an organization; this may involve activities such as reducing cost and enhancing firm productivity. Perhaps it would be useful to find out more about how the technology and the digital change impacts cost competitive advantage and fiscal solidity. It leaves the future research with the possibility of how, in what manner the application of new technologies in the operation function that includes automation and data impacts the cost.

## REFERENCES

- Amaducci, F., & Boido, F. (2019). The historical impact of financial distress on corporate strategies: Lessons from case studies. *Business History Review*, 92(4), 543–567
- Arpaci, A. (2023). Cost efficiency as a strategic imperative for corporate resilience in volatile markets. *Journal of Strategic Management*, 29(7), 678–692.
- Azizah, A., Yazdanfar, D., & Falk, S. (2024). Examining the operational challenges posed by financial distress and the buffering role of cost efficiency. *Journal of Corporate Finance Studies*, 18(2), 123–137.
- Basha, R., Chandramohan, S., Kannan, S., & Ganesan, P. (2021). Systemic risk, cost efficiency, and corporate value during financial distress. *Emerging Markets Finance and Trade*, 57(2), 321–340
- de la Barra, C., Alignier, A., Reyes-Paecke, S., Duane, M., & Miranda, J. (2022). Cost efficiency and operational stability in times of financial distress. *Operational Research Review*, 38(4), 491–507.
- Divakaran, S., Halland, H., Lorenzato, G., & Rose, C. (2022). Financial vulnerabilities of firms under distress: The critical role of cost management. *Corporate Finance Insights*, 40(5), 342–359

- Falk, R., & Strauss, A. (2000). On the creation of a global peoples assembly: legitimacy and the power of popular sovereignty. *Stan. J. Int'l L.*, 36, 191.
- Falk, S., & Strauss, J. (2000). Cost efficiency as a mediator in mitigating the adverse effects of financial distress. *Management and Economics Journal*, 34(1), 45–62.
- Fioramonti, L. (2017). *Wellbeing economy: Success in a world without growth*: Pan Macmillan South Africa.
- Ghafari Jabari, S., Yazdanfar, A., Khan Mohammadi, M. A., Sadeghi Bazargani, H., & Farah Bakhsh, M. (2024). The Environmental Factors Affecting Covid-19 infection: Literature Gap, Case study: Tabriz. *Geography and Urban Space Development*, 11(2).
- Golding, P. (2005). *Next generation wireless applications*: John Wiley & Sons.
- Kelly, R. A., Jakeman, A. J., Barreteau, O., Borsuk, M. E., ElSawah, S., Hamilton, S. H., . . . Rizzoli, A. E. (2013). Selecting among five common modelling approaches for integrated environmental assessment and management. *Environmental modelling & software*, 47, 159-181.
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration (ijec)*, 11(4), 1-10.
- Liu, W., Xu, J., & She, S. (2023). Green economic development by increasing efficiency of natural resource consumption. *Resources Policy*, 85, 103961.
- Loeser, F., Recker, J., Brocke, J. v., Molla, A., & Zarnekow, R. (2017). How IT executives create organizational benefits by translating environmental strategies into Green IS initiatives. *Information Systems Journal*, 27(4), 503-553.
- Marsuki, D. Optimization of Indonesian Economic Management In Beginning Era of Global Economic Crisis.
- Pilkington, P., Milne, L., Cairns, K., & Whelan, T. (2016). Enhancing reciprocal partner support to prevent perinatal depression and anxiety: a Delphi consensus study. *BMC psychiatry*, 16, 1-11.

- Pollock, J. L. (1992). How to reason defeasibly. *Artificial Intelligence*, 57(1), 1-42.
- Roka, K. (2022). Environmental and social impacts of food waste. In *Responsible consumption and production* (pp. 216-227): Springer.
- Sabani, A. (2021). Investigating the influence of transparency on the adoption of e-Government in Indonesia. *Journal of Science and Technology Policy Management*, 12(2), 236-255.
- Schrijvers, O., Bonneau, J., Boneh, D., & Roughgarden, T. (2017). *Incentive compatibility of bitcoin mining pool reward functions*. Paper presented at the Financial Cryptography and Data Security: 20th International Conference, FC 2016, Christ Church, Barbados, February 22–26, 2016, Revised Selected Papers 20.
- Somboonpanyakul, T., McDonald, M., Lin, H. W., Stalder, B., & Stark, A. (2018). The Clusters Hiding in Plain Sight (CHiPS) Survey: A First Discovery of a Massive Nearby Cluster around PKS 1353– 341. *The Astrophysical Journal*, 863(2), 122.
- Sundar, B. G., & Hossain, M. A. (2022). Effectiveness of e-Government Procurement (e-GP) System in terms of Efficiency, Transparency, and Accountability in Bangladesh: An Assessment. In: Bangladesh Public Administration Training Centre.
- Tan, C., Kalhor, M. T., Faqir, Y., Ma, J., Osei, M. D., & Khaliq, G. (2022). Climate-resilient microbial biotechnology: A perspective on sustainable agriculture. *Sustainability*, 14(9), 5574.
- Toufaily, E., Zalan, T., & Dhaou, S. B. (2021). A framework of blockchain technology adoption: An investigation of challenges and expected value. *Information & Management*, 58(3), 103444.
- Yazdanfar, D. (2020). Structural causes of financial distress: Excessive debt reliance and firm vulnerabilities. *International Review of Financial Analysis*, 27(3), 215–229.

Zohar, A. (2017). *Securing and scaling cryptocurrencies*. Paper presented at the IJCAI.

Zoogah, D. B. (2018). High-performance organizing, environmental management, and organizational performance: An evolutionary economics perspective. *Human resource management*, 57(1), 159-175