

IMPACT OF FINANCIAL DISTRESS ON THE FINANCIAL COSTS: EVIDENCE FROM NON-FINANCIAL PAKISTANI FIRMS

¹Muhammad Ali Jibrán Qamar, ²Umar Farooq, ³Sameen Masood

¹COMSATS Institute of Information Technology, Lahore
majqamar@ciitlahore.edu.pk Mobile: + 923 333 4008995

²COMSATS Institute of Information Technology, Lahore.

³Department of. Sociology, University of The Punjab, Lahore
Sameen.pu@gmail.com Mobile: + 92 3335519508

ABSTRACT: *This research investigates costly financing as indirect cost of financial distress for non-financial firms listed with Karachi Stock Exchange, Pakistan. It is found, financial distress affects firm's financial flexibility negatively that leads to costly financing. Furthermore, costly financing due to financial distress decreases firms' profits and can be attributed to the indirect cost of financial distress. So, this research has strong practical implications for risk management for all the stakeholders in evaluating firm value during financial distress.*

Keywords: Financial Distress; Indirect cost of financial distress; Costly Financing; Financial Flexibility

1. INTRODUCTION:

Financial distress and costs associated with it are ascribed as negative connotations that could affect firm's value negatively [1]. Financial distress can be defined as firms' inability to meet their operating and/or financial obligation on scheduled time or to the full extent by reason of temporary liquidity problem or other difficulties confronted by firm [2]. However, it is commonly believed that firms bear significant losses due to such inabilities [3]. These losses are further categorized into direct and indirect cost of financial distress. Direct costs of financial distress incurred at the time of default to execute the process of liquidation e.g., lawyer fee or other legal expenses, etc., while indirect costs of financial distress are those hidden losses incur before or at the time of liquidation unconnected with the execution of the bankruptcy process, e.g. opportunity losses [4] which are more significant and difficult to measure as compared to direct cost of financial distress.

Previous studies mainly focused on predicting financial distress while less intention is paid to investigate the costs that firms bear due to such negative situations. However, from the last two decades, researchers are also diverting towards its costs, especially the indirect cost of financial distress. Major reason for ignoring indirect cost is difficult in its measurement. The indirect cost of financial distress is significantly higher and difficult to measure [5]. Moreover, one can also evidence increasing numbers of financial distress cases and stakeholders endeavor to evaluate firm performances in such bad times. Similarly, cost of financial distress is also used to determine the optimal capital structure as explained by trade off theory. However, previous studies mainly focus on the effects of financial distress on operational, market performances and management losses [6, 7, and 1]. While, no significant attention is given to investigate costly financing as cost of financial distress. It is argued that firms experience liquidity problems in financial distress that enforce them to deploy costly external financing. Due to increased risk during distress period, investors demand high returns that increase the cost of financing. The extra cost incurred during troubling period can be classified as cost of financial distress. This research aims to provide empirical evidence for this stated argument in case of Pakistani non financial firms listed at Karachi Stock Exchange (KSE).

2. THEORETICAL BACKGROUND:

Firms comprise of people who work together to achieve some common goals and objectives. However, to perform operating activities firms need resources that could be financed through external sources, i.e. debt or internal sources i.e. equity. In

practice firms deploy both sources to fulfil their financing needs. On the other hand financial expenses are also paid against the external debt financing. However, if firms do not earn adequate profits to pay their financial obligations timely, they will be in the state of financial distress that can lead to default. Previous studies have explored financial distress in two perspectives. A First group of researchers relates financial distress with bankruptcy and argued that financial distress is a state that distinguishes a healthier firm with bankruptcy [8, 1]. In general bankruptcy is defined as a situation where business operations are terminated due to inability of meeting obligations on time or to the full extent. Such researchers regard financial distress as a one time process that distinguishes bankrupt firms with other survived firms [5]. On the other hand, a second group of researchers argued that financial distress is not related to the bankruptcy synonymously. They regard it as a cyclic process. Initially reduction in profit occurs which can lead to either recovery or bankruptcy [10,1]. However, such continues decrease in profits lead to severe liquidity problems that results in bankruptcy. It is also consistent with [11] who also argued that prior to financial distress firms face profitability problems while in the post financial distress era these firms face liquidity problems. However, before bankruptcy firms may restructure to regain healthy position. Hence, financial distress is not a one time process rather it is an ongoing process while bankruptcy can be one of the outcomes of this process. This paper also assumes financial distress as a continuous process and suggests that firms who are not announced bankrupt or default can still face distressed situations and bear losses due to such situations.

Previously, researchers mainly focused to predict such default situations prior to its occurrence so that stakeholders could make appropriate decision making [12, 13, 18] However, it is also argued that firms bear significant losses due to such default situations. Researchers have divided such losses into direct bankruptcy cost such as legal or administrative costs that incur once at the time of default or indirect hidden losses like opportunity or productivity losses [7]. Direct bankruptcy costs realized at the time of liquidation or default. These are fixed payments to third party such as professional lawyers, accountants, attorneys, trustees or administrators etc who execute the process of bankruptcy or reorganization [14](Weiss 1990). Though such costs are smaller than indirect cost of financial distress but still literature shows losses of 3% to 25% of firms' value in this respect [15]. These costs can be

identified and calculated easily because data regarding such costs can be accessed and measure without difficulties.

Besides this theorists also argued that firms also bear some hidden costs and losses before or at the time of default due to financial distress. These costs can be in the form of opportunity losses, competitor based losses, productivity losses or even management losses [6, 9, 16]. For instance it is argued that during financial distress customers' loyalty decrease that negatively affects the market share to incur opportunity losses. Similarly, competitors also adopt aggressive price strategy and decrease their prices to capture market share of such distressed firms [9](Andrade and Kaplan 1997). It is also argued that in financial distress firms face liquidity problems that further affect their operations and lead to productivity losses [6]. Similarly, firms also lost their key employees due to financial distress.

So, previous studies mainly explored customer, operation and management based losses due to financial distress. However, this study further argues that firms also bear the losses of costly financing due to financial distress. It is argued that firms need cash during financial distress to meet their operating and/or financial obligations on time [11]. So, one can expect high debt borrowings by firms in financial distress. However, to finance such needs, they bear the high cost of debt due to restricted alternatives and increased risk premium. It is proposed that financial distress affects the financial flexibility of distressed firms that ultimately results in high cost of debt. In other words financial distress enforces managers to take external debts even at high cost. If the given statement is true, then such costly financing due to financial distress can be attributed to cost of financial distress. This research provides the empirical evidence for this argument and explores the relationship between financial distress and firms' costly financing as an indirect cost of financial distress.

3. METHODOLOGY:

Data for 348 non financial Pakistani firms for the period of 2006 to 2012 is selected by using annual publications of balance sheet analysis by State Bank of Pakistan (SBP). However, final sample consists of 1964 observations from 16 different industries. This final sample is obtained after excluding default firms, firms' observation with zero sales and missing data for finance cost. Since, this research assumes that financial distress is a cyclical process so it is more appropriate to include only ongoing firms for the analysis. The analysis is conducted in two ways. First costly financing is studied as consequence of financial distress. Secondly impact of such costly financing due to financial distress is linked with firm profitability.

3.1 Financial Distress and Costly Financing:

It is proposed that during financial distress, cost of external debt increases. So, the first hypothesis is that financial distress positively affects the firms' average finance cost. To conclude this hypothesis following model 1 is proposed.

$$CF = \alpha + \beta_1 FD + \beta_2 Size + \beta_3 Tangibility + \beta_4 EPS + \beta_5 InvTurn + \beta_7 Industry Dummy + \beta_8 Time Dummy + \varepsilon_{it}$$

Model

(1)

Here Costly Financing (CF) is dependent variable to show the losses due to financing at higher cost comparatively. On the other hand financial distress (FD) is used as independent variable. It is proposed that firms' finance costly external debt due to the liquidity problems in financial distress. The relationship between FD and CF will determine that whether

firms' costly financing is affected by financial distress or not. At last the given model also used six controlled variables of size, tangibility, earnings per share (EPS), inventory turnover (Inv-Turn), industry dummies and time dummies. Details of these variables are given as below.

3.1.1 Costly Financing:

Previous studies have explored customer based, performance based, competitor based and management based costs of financial distress. However, in this study it is argued that firms bear losses due to costly financing in financial distress. To measure costly financing, firms' average finance cost rate is subtracted from sector average finance cost rate as shown in following expression. Positive answer of given formula will demonstrate that firm's average finance cost is higher than the industry average and can be attributed to the costly financing while negative values will show converse results. However, if such costly financing is due to financial distress then such losses can be ascribed as cost of financial distress.

$$\text{Costly Financing} = [\text{finance cost} / \text{total liabilities}]_{\text{firm}} - [\text{finance cost} / \text{total liabilities}]_{\text{Sec}}$$

3.1.2 Financial Distress:

As noted earlier, financial distress is a cyclic process where firms enter into financial distress and may revert to a healthy position. To measure financial distress dummy variable of financial distress (FD) is used that is equal to 1 if firm's interest coverage ratio measured through ratio of earnings before interest and taxes to financial expenses is less than 0.8 for one particular year or less than 1 for two consecutive years and 0 otherwise. The given methodology to define financial distress is in consistent with [18] who used this definition to study indirect cost of financial distress.

3.1.3 Control Variables:

Six control variables are also used in proposed model. Since, larger firms hold less chance of bankruptcy so it is much probable that such firms will finance external debt at lower cost comparatively [17]. So, to control this effect variable of Size measured with natural log of total sales is used. Similarly, firms with more tangible assets can finance at lower cost due to collateral. So, to control this effect variable of tangibility measured with total fixed assets to total assets is also used. In the same way profitable firms are also capable of finance external debt at lower cost. It is because these firms also contain low chance of bankruptcy [14](Amidu 2007). At last firms with high inventory turnover are more capable of generating cash flows to cover cost of debt with more profits. So, it is also proposed that high inventory turnover results into less costly financing comparatively. At last dummy variables of time and industry is also used. Since, the data is representing 16 different industries so it is important to control the industry effects as external debt financing and its cost may differ within different industries.

3.2 Costly Financing as Indirect Cost of Financial Distress:

On the other hand model 2 investigates the impacts of costly financing due to financial distress. It is argued that profitability of distressed firms decrease due to costly financing that can be labelled as indirect cost of financial distress. So, second hypothesis is that costly financing in financial distress negatively affects the firms' profits. Dependent variable profitability measured with Return on Assets (RoA). RoA reflects net profits to total assets while financial distress, costly financing and interaction of costly financing and financial distress are three main independent variables. Here cross effect of financial distress and costly financing is more important and will show the intensity of cost of financial distress. It is

predicted that there will be a negative relation between the cross effectiveness and profitability.

$$ROA = \alpha + \beta_1 FD + \beta_2 CFD + \beta_3 CFD*FD + \beta_4 Size + \beta_5 Sales/TA + \beta_6 CR + \beta_7 Industry Dummy + \beta_8 Time Dummy + \epsilon_{it}$$

Model 2

Five control variables are also the part of the proposed model. Since, larger firms are more capable of generating high profits; size of firms measured as log of sales is also included in the model. Similarly, liquidity is also positively related to firm profitability and to control its effects is important which is measured with current ratio (CR). Lastly, operational efficiencies also increase firms' profitability and it is useful to include efficiencies variable to control its effect which is measured through sales to total assets ratio. Furthermore, time dummies and sector dummies are also a part of five control variables as demonstrated in model 2.

4. RESULTS:

The table shows the output of results obtained from the GLM regression analysis of model 1. The high value of chi-square (304.4) shows that proposed model is significantly explaining the variations into a dependent variable of costly financing. There is a positive relationship between financial distress and costly financing. Results revealed that the firms' cost of finance creeps up by 0.522 in financial distress as compared to non financial distressed firms. These results are significant at 5%. Since, positive answer of proxy of costly financing demonstrates costly financing so it can be predicted that in financial distress firms borrow costly external debt. Such costly financing can be attributed to increased risk premium because of liquidity problems that forces managers to deploy such costly borrowings. It is argued that firms experience liquidity problems in financial distress [11] which is mitigated through external financing. However, with increased risk premium these firms are charged with high interest. Moreover, it is also possible limited financial alternatives may affect firms' financial flexibility. Such costly financing due to financial distress can be attributed to the cost of financial distress.

Table 1: Financial Distress and Costly Financing

Dependent variable is costly financing. FD is Financial Distress while EPS and INVTURN are representing Earnings Per Share and Inventory Turnover.

Variables	β	Sig.
(Intercept)	-5.645	0.000
FD	0.522	0.041
Size	0.443	0.000
Tangibility	1.128	0.038
EPS	-0.002	0.447
Inv TurnOver	-0.0005	0.051
Time Dummies	Yes	
Industry Dummies	Yes	
Chi-Square	304.422	

Size of firms and tangibility also showed positive results with dependent variable of costly financing. This indicates that larger firms and firms with more tangible assets also use costly external borrowings. These results are not consistent with the theory as due to low chance of bankruptcy and with high fixed assets available for collateral, larger and tangible firms are more capable of deploying less costly debt borrowings. While in this case results are portraying converse results. However, one of the reasons behind this can be attributed to the over reliance of firms on current liabilities as compared to long term

liabilities that are comparatively more costly. However, other two variables of profitability measured by earnings per share and inventory turnover are negatively related to costly financing. This implies that profitable firms and firms with effective working capital management deploy less costly debt borrowings. One of the reasons behind this can be attributed to the internal funds available for profitable firms and capabilities to generate cash flows quickly that allow them to forgo options of costly debt borrowings.

On the other hand table 2 is providing results obtained from the execution of model 2. The Proposed model is significantly explaining the variations into a dependent variable of profitability as chi-square value (879.62) is very high. It is found that financial distress is negatively related to firm profitability. It is found that in financial distress firms' profitability decrease by 14.98% on average as compared to non financial distress firms. Similarly, costly financing (CF) is also negatively related to profitability significantly. This implies that deploying costly finance leads to negative returns. However, if such costly financing is due to financial distress then it can be attributed to the cost of financial distress that can affect firms' profit negatively. Results are providing significant empirical evidence for this stated argument as shown in table 2. Cross effect of FD and CF is also showing significant negative results that show that when firms deploy costly financing in financial distress their profitability further reduce by 0.579% significantly. So, this concludes that financial distress is negative connotation that enforces firms to deploy costly financing that ultimately affect profitability negatively.

Table 2: Costly Financing as Cost of Financial Distress

*Dependent variable is return on assets measured as net profit divided by total assets and given is a percentage. FD and CF refer to financial distress and costly financing as defined earlier. However, CF * FD is the cross effect variable while 0 category of FD is taken as the reference category.*

Variables	β	Sig.
(Intercept)	-12.698	0.000
FD	-14.982	0.000
CF	-0.175	0.039
CF * FD	-0.579	0.000
Size	1.128	0.000
Sales/Total Assets	1.585	0.000
Current Ratio	0.386	0.000
Time Dummies	Yes	
Industry Dummies	Yes	
Chi-Square	879.62	

However, other three control variables of size, sales to total assets and current ratio showed positive results. This shows that larger firms generate more profits comparatively. Similarly, sales to total assets a measurement of operational efficiencies are also showing significant positive results with profitability. Similarly, firms with more current assets to meet short term obligations are also found to generate higher profitability as shown in table 2. In short, it is concluded that firms in financial distress may bear various hidden indirect losses that can also be in the form of costly financing as argued in this research. However, if given statement is true, then such losses can be labelled as an indirect cost of financial distress that affects firm profitability negatively.

5. CONCLUSION:

Stakeholders always remain keen to evaluate firm performances, especially in bad times to make their decisions

accordingly. The purpose of this research is to explore the costs firms bear in financial distress. More specifically this research endeavors to explore the indirect cost of financial distress in the form of costly financing. Previous literature has paid significant attention to predict financial distress while comparatively less attention is given to the costs borne by firms during such anguished situations. Moreover, these limited studies mainly focused on customer based losses such as opportunity losses, operational deficiencies in the form of productivity losses, management losses due to employee turnover or decrease in market value. This research further explored the indirect cost of financial distress and proposed that firms in financial distress are enforced to finance external debt to meet liquidity problems even at costly interest. However, if firms borrow such costly debt due to financial distress then such losses can be attributed to cost of financial distress.

Results reveal that financial distress is positively related to costly financing that shows that firms in financial distress finance costly debt on average. Losses due to such costly financing are considered as indirect cost of financial distress. Reason behind this is attributed to the high risk premium that requires high interest and firms' willingness to finance externally to solve their liquidity problems. However, the impacts of such costly financing due to financial distress on firm profitability are also explored. The results clearly indicate that both financial distress and costly financing negatively affects firm's profitability. However, such losses become more severe when firms in financial distress deploy costly financing. These losses are further described as cost of financial distress. In short, this study provided useful information regarding costly financing as an indirect cost of financial distress.

5.1 Practical Implication:

The output of this research is useful for all stakeholders. Since, these stakeholders endeavored to evaluate firm performances, especially when things are not going well so this study could help them in determining firm's fair value at that time. Moreover, such indirect cost of finances can also help in defining the optimal level of capital structure. So, the output of this research has strong practical implications for financial managers.

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