

# Corporate Financial Distress and Stock Return: Evidence from Indian Stock Market

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## Abstract

In the recent years, studies in the corporate failure or its prediction have been very prevalent among the academicians, financial practitioners, and watchful economic bodies. Although there are enough evidences or tools to forecast this trend, an accurate and a reliable method for predicting failure is under study. One of the most common business phenomena is also one of the most perplexing: when successful companies face big changes in their environment, they often fail to respond effectively. The present study tries to examine whether the capital market reacts differently according to the outcomes of financial distress for default and willful default companies at the time firms announce their distress condition, which is a matter of concern to both academics and business professionals. Abnormal returns, AARs and CAARs were computed. Event study methodology was also adopted to examine the trend during pre and post windows.

**Keywords:** Financial distress, wiful default, corporate bankruptcy and payment obligation.

## INTRODUCTION

In the recent years, studies in the corporate failure or its prediction have been very prevalent among the academicians, financial practitioners, and watchful economic bodies. Although there are enough evidences or tools to forecast this trend, an accurate and a reliable method for predicting failure is yet to be found.

The financial distress very likely may tend to bankruptcy. Bankruptcy can cause some serious damages to shareholders, virtual investors, creditors, managers, employers, suppliers of early materials, clients, or an economy in general. Financial distress begins when an organization is unable to meet its scheduled payments when projection of future cash flows points to an inability to do so in near future. Financial distress refers to a period when a borrower (either individual or institutional) is unable to meet a payment obligation to lenders and other creditors.

The financial crisis has already thrown many financially strong companies out of business all over the world. Corporate financial distress not only

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incurs severe financial loss to its creditors but also has a high cost to the society and the country's economy. Consequently, financial distress prediction studies are significant to all those involved: owners, shareholders, lenders, suppliers, and government. With the recent global financial crisis and the failure of many organizations in the U.S and the European countries it has become all the more necessary that the stakeholders study the financial health of their organization. For companies, being able to meet their financial obligations is an integral part of maintaining operations and growing in the future. If the company is not in a good financial health it may not be able to survive in the future.

This distress may be due to borrower specific factors like reputation, leverage, volatility of earnings, collateral or may be due to market specific factors like the economic condition and level of interest rates.

One of the inherent factors of financial distress and finally the bankruptcy of the companies is lack of existing of control by different claimants. The company shareholders may have no say in the management of the company. Use the different kinds of destructive operations such as supplying their own share in the market or using of the right of expressing their views against the management. When carried out their operations, the share price decreases and the company from the point of view of view of financial power – encounters this snag and regards as mismanagement. Being not commensurate with the financial ratio of the company- according to financial cases, it can be fulfilled by breaking the control by unsatisfied shareholders and finally lead to financial distress and bankruptcy of the company.

Prediction of corporate bankruptcy is a phenomenon of increasing interest to investors or creditors, borrowing organizations and government alike. Timely identification of organizations' impending failure is desirable. Business failure is a general term and according to widespread definition, is the situation in which a firm cannot pay lenders, preferred stock shareholders, suppliers, etc, or where a bill is overdrawn, or the form is legally bankrupt. Signs of potential financial distress are evident long before bankruptcy occurs.

Ferri et al. (1998) report that the problems of corporate financial structures have been an important factor in contributing to the Financial Crisis and leading many corporations to bankruptcy. Therefore, there is a need to

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develop a model to assess the financial health of firms in an Indian context. The research findings from developed economies are not suitable to apply to Indian firms due to the differences in market structures; socioeconomic factors, provision and implementation of law, the political environment and accounting standards in these economies, which result in differences in financial reporting (Her and Choe, 1999). Corporate failures are a common problem of developing and developed economies (Altman et al., 1979). It is commonly described as being when an associate of the firm comes up with a resolution that the firm be wound up and assign a liquidator or the associate of the firm can satisfy a meeting of its creditors to deliberate its proposal for a voluntary winding up of the firm. Corporations are not invulnerable to failure, where commonly the firm is not able to meet its liabilities.

Performance of stocks of these distressed companies close to announcements is a matter of concern to the investors. Past studies on market reaction to bankruptcy filings are well documented in empirical studies (Beneish and Press, 1995, Dawkins and Bamber, 1998, and Lang and Stulz, 1992). Major negative abnormal returns (ARs) surrounding the days of bankruptcy announcement was observed, as it is reflected as a bad news. The weakening of price is associated with the investor's prior assessment of the firm's likelihood of bankruptcy. The extent of the reaction could be because of the expected resolution of bankruptcy and recovery in the event of financial distress (Beneish and Press, 1995, Chen and Church, 1996, Kennedy and Shaw, 1991, and Rose-Green and Dawkins, 2000). Therefore, market participants may probably perceive upshots as important, possibly causing different reactions by investors.

The present study contributes to the literature by examining whether the capital market reacts differently according to the outcomes of financial distress for default and willful default companies at the time firms announce their distress condition, which is a matter of concern to both academics and business professionals. It is expected that capital market participants will make prior assessments of the outcomes of financial distress from the sufficient publicly available information. In other words, the severity of the financial distress condition might have been detectable even before the announcement of financial distress. Consequently, it is argued that if a market is efficient, it will be able to distinguish between failing companies which are capable of restructuring and resuming business (good news)

and those that have failed. These different outcomes carry different values for the shareholders, and the market may have a certain insight or foresight into companies' future prospects, which may cause different stock price reactions. In this regard, it would be of considerable interest to assess whether the Indian market is efficient enough to distinguish between the companies that have successfully restructured and those that have failed. Therefore, this paper tries to observe stock market reactions to financial distress announcements for default companies and willful default companies.

### ***Default and Willful Default in India***

The master circular on wilful defaulters issued by the Reserve Bank of India (RBI) defines a "wil-ful default" as occurring when: a "unit" defaults in its payment/repayment obligations to a lender even though it has the capacity to make such payments; a unit defaults in its payment/repayment obligations to a lender, and has not used the finance raised from the lender for the specific purposes for which it was sanctioned and has diverted the funds for other purposes; a unit defaults in its payment/repayment obligations to a lender and the funds raised have been siphoned off and are not available with the unit in the form of other assets; or a unit defaults in its payment/repayment obligations to a lender and has also disposed of or removed the movable fixed assets or immovable property given by it as security for the purpose of securing the financing without the knowledge of the lender.

Notably, while the RBI defines "wilful default" in the following instants

a) Default in repayment obligations by the unit to the lender even when it has the capacity to honour the said obligations. b) Default in repayment obligations by the unit to the lender and has not utilized the finance from the lender for the specific purposes for which finance was availed of but has diverted the funds for other purposes. c) Default in repayment obligations by the unit to the lender and has siphoned off the funds so that the funds have not been utilized for the specific purpose for which finance was availed of, nor are the funds available with the unit in the form of other assets. d) Default in repayment obligations by the unit to the lender and has also disposed-off or removed the movable fixed assets or immovable property given by it for the purpose of securing a term loan without the knowledge of the bank/lender.

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## Methodology

The present study is based on both empirical and analytical study using secondary data. Published financial statements are used for analysis. The list of defaulters and wilful defaulters is obtained from Reserve Bank of India from April 1, 2010 to March 31, 2015.

All listed companies who are defaulters for consecutive three years are considered for the purpose. The stock price responses of these target companies to the announcement of default in India for the same period was taken for the purpose of study from ACE Equity database.

The parameters of the market model like alpha, and beta based on returns on stocks and market index in the estimation period are estimated, and then expected returns on each stock are calculated based on the market model in order to measure the abnormal gains/losses to target company shareholders. The estimated abnormal returns (ARs) of each stock are added and then average ARs are computed for each day during the event window to calculate AARs. The following market model proposed by Sharpe in 1963 is used in the study to compute the abnormal return:

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt})$$

The cumulative AARs of different days during the event window are designated as the CAARs. Each security return is divided into two parts. These are those returns which can be attributed to market movement and those which cannot be attributed to market movement but to takeover announcement. The stock price responses to the takeover announcement or the event are measured by eliminating the market's influence on stock's observed rate of return. The methodology employed for the purpose is called 'Residual Analysis Methodology' since it involves calculation of residuals defined as that part of stock's returns which is not explained by movement of the market. These residuals are explained by the event-related news of a particular company for which these are calculated. In the present analysis, the market model measures the returns of stocks related to market movement. The market model is based on the fact that the most important factor affecting a stock's returns is market factor and it is captured in the market model in the form of beta ( $\beta$ ). It is a simple model to analyse the risk component of stocks in terms of systematic and unsystematic risks. Thus, the market model relates the return on any stock

or portfolio of securities to the return on the market in a linear fashion. The actual tests are performed on the returns in these types of studies. Mathematically, the market model can be expressed as:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad \text{for } i = 1, \dots, n$$

where,

Thus, the market model divides security returns into two components — systematic component ( $\beta_i R_{mt}$ ) and an unsystematic component ( $\varepsilon_{it}$ ). The systematic component measures the impact of general market movement, and unsystematic component, also called error term, measures the influence of micro event on the rate of return of individual security. Thus, the error term is a firm-specific component.

Further, logarithmic form of the model is also used in this study which is stated below:

$$\text{Log } R_{it} = \alpha_i + \beta_i \log_e L_t + u_{it}$$

Where,

$R_{it}$  = Price relative of  $i$ 'th security in time 't';  $\alpha_i$  = Alpha coefficient of  $i$ th security;  $\beta_i$  = Beta coefficient of  $i$ th security;  $u_{it}$  = an error term with zero mean and a constant variable during time period 't'.

After computing the AARs and CAARs, statistical significance of these computed values are tested at a required confidence level. The statistical significance of AARs and CAARs are tested by using cross sectional standard deviation of ARs. These values are generated from the estimation period.

**Statistical Significance of AARs:** The hypothesis is that the cross-sectional AARs are zero. The statistical significance of AAR for each day 't' surrounding the event day is assessed by dividing  $AAR_t$  by its standard deviation which is denoted by  $\sigma AAR_t$ .

$$\text{Test Statistic} = \frac{AAR_t}{\sigma AAR_t}$$

Where,

$$AAR_t = \frac{\sum_{i=1}^N AR_{it}}{N}$$

$AAR_t$  = Average abnormal return on day 't' in the event window

$AR_{it}$  = Abnormal returns on security  $i$  on day 't'

$N$  = Total number of securities

$t$  = the days surrounding the event day.

$\sigma AAR_t$  = Standard deviation of  $AAR_t$

$$\sigma AAR_t = \sqrt{\frac{\sum_{t=1}^T (AAR_t - \overline{AAR})^2}{(N - 1)}}$$

Where,

$$\overline{AAR} = \frac{\sum_{t=1}^T AAR_t}{N}$$

$AAR_t$  = Average abnormal return on day 't' in the estimation period

$\overline{AAR}$  = Mean of AARs in the estimation period

$N$  = total number of days in the estimation period

The above model was employed by Dodd (1980), Gong and Firth (2006) and Mann and Kohli (2008).

The test statistic to assess the statistical significance of CAARs is:

$$Z = \frac{CAAR}{\sigma AAR_t * \sqrt{T}}$$

where,

$$CAAR = \sum_{t=1}^T AAR_t$$

Further, event study methodology was also adopted to observe the trend of returns during pre and post windows.

## RESULTS AND DISCUSSIONS

The result of the empirical study on the stock price response of the default firm on the announcement of list of default firms by RBI is presented in this section. Log returns are used for the computation of abnormal returns. Results are based on log returns for event window of 15 months (-11 to +3).

Table reports the abnormal returns to the shareholders of default firms on announcement of default by RBI and multi-period event windows. It contains average abnormal return, cumulative average abnormal return, and Z value. Additionally, it presents proportion of positive and negative average abnormal return.

It is clear from the table that shareholders of defaulted firm earn negative average abnormal returns of 0.57 percent on the announcement day for default. The proportion of stocks having positive return on the announcement day is more than 57 percent.

Relevant data contained in Table also shows that the shareholders of default firms experience CAAR of -3.32 percent on the day of announcement and this is significant at 1 percent level ( $z = 5.013$ ). Two CAARs of to 15 month event window was not statistically significant.

The finding for the post-default announcement period is also in lines with Pandey (2001) and Chakraborty (2010). However, this study finds small but statistically significant CAARs in the post-announcement period. Pandey finds negative and statistically insignificant returns for the period after announcement and Chakraborty finds positive but statistically not significant gains for the study period.

**Table 1 AARs and CAARs of Target company shareholders with Z values**

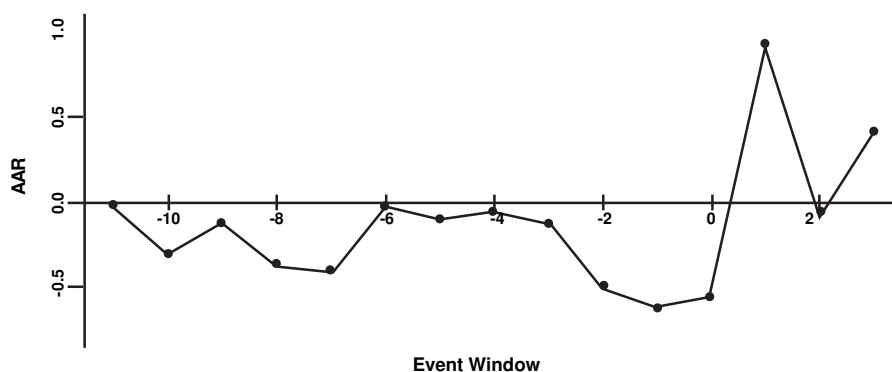
Event Window	AAR	CAAR	Positive: Negative	Z Value
-11	-0.0162	-0.0450	45:14	-2.4226*
-10	-0.3017	-0.3467	36:23	-1.0011
-9	-0.1250	-0.4717	47:12	-3.2877***
-8	-0.3683	-0.8400	39:20	-1.9868
-7	-0.4265	-1.2665	33:26	-2.5867**
-6	-0.0299	-1.2964	50:09	-37.8252***
-5	-0.1008	-1.3972	44: 15	-12.0735***
-4	-0.0709	-1.4681	40:19	-18.0298***
-3	-0.1328	-1.6009	43: 16	-10.5001***



-2	-0.5104	-2.1113	33: 26	-3.6034***
-1	-0.6358	-2.7471	26:33	-3.7639***
0	-0.5777	-3.3249	25:34	-5.0132***
1	0.9413	-2.3836	43: 16	-2.2060
2	-0.0520	-2.4356	34: 25	-40.8294***
3	0.4141	-2.0215	42: 17	-4.2529***

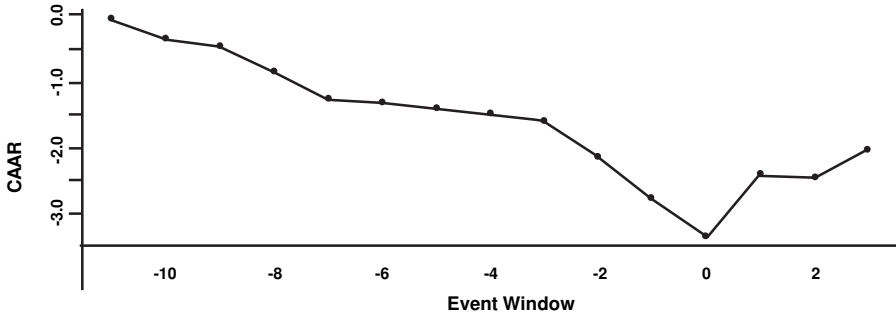
Figure given below display the trend of AAR during pre and post windows (-11,+3). The graph shows that abnormal returns start declining two months before the announcement. It was least during one month before the announcement. It went up during the immediate month post-default announcement.

**Chart 1 Event Window of AAR of Target Companies**



CAAR trend shows clearly the declining trend. We could infer that shareholders were expecting this announcement. Efficient market hypothesis states that all stock price discounts all the information. This means using the financial models of prediction, shareholders already had predicted the default which resulted in declining CAAR.

**Chart 2**  
**Event Window of CAARs of Target Companies**



### CONCLUSION

This paper observes the stock price responses of target companies to the announcement of default in India for five years from April 1, 2010 to March 31, 2015. The abnormal returns, AARs, and CAARs are computed. Regression parameters of the market model ( $\hat{\alpha}_i$  and  $\hat{\beta}_i$ ) are computed taking an estimation period of 15 months preceding the date of announcement of default. The main implication from this study is that a major portion of CAARs is negative at or before the announcement date suggesting that either there was a leakage of information to the market before the event day or the market expected the happening of default. Overall, the results suggest that announcements of financial distress are associated with negative abnormal returns. Furthermore, the results indicate that the market differentiates the outcomes of the firms around the financial distress announcement. Interestingly, a small part of CAARs is realized by the target shareholders in the post default announcement stating that the market took some time to absorb fully the information content of the event. Based on the event windows, it can be observed that the abnormal returns declined and was least from one month before and on the month of default announcement. The conclusion of this study provides indication and caution to the investors in general, and shareholders of the target company. Similarly, the announcements offer an opportunity to shareholders of target companies and general investors to make profits both in the period before and after the announcement by going short on the target company stocks.

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