Research Paper Engineering

A Study on Bankruptcy Level of Software Companies in India

DR. KAVITHA SHANMUGAM | PROFESSOR, MANAGEMENT STUDIES,J.J. COLLEGE OF ENGINEERING & TECHNOLOGY, AMMAPETTAI, TRICHY - 09

J. TAMILSELVI | RESESARCH SCHOLAR, RESEARCH AND DEVELOPMENT CENTRE, BHARATIYAR UNIVERSITY, COIMBATORE

ABSTRACT

There are several issues that are utmost relevance with factors that affect the firm's financial distress such as high leverage, cash shortage and risk management. Given that, in many cases, financial distress may lead to firm's insolvency. Financial distress can be defined as a circumstance where a company cannot meet nor has difficulty in paying off its current financial obligations. Therefore, since it is difficult to them to predict financial distress, this paper provides a moderate attempt to understand the feasibility of using financial ratios, capital structure and Altman Z-score as an empirical approach to predict financial distress in future. The stakeholder theory of capital structure proposed by Titman (1984) argues that firms will take into account the nonfinancial stakeholders' preferences when making capital structure decisions. In particular, firms selling specialized products will choose a lower leverage ratio. The study found that according to Altman Z score for top ten software companies in India for the year 2005 – 2014 are 2.827 that denotes that the companies risk is in low range. The companies are out of crisis zone and financially sound. There were no signs of the companies going bankrupt.

KEYWORDS Software, Capitalization, Capital Structure, Debt-equity ratio, Z score.

INTRODUCTION

In order to expand businesses, individuals and corporations take the financial opportunities that exist around them through the process of borrowing and lending. Depending on their current capacity and capability, they presume financial commitments and risks in fulfilling the requirements for future obligations. Insolvency is a general term used to describe a debtors legally declared inability to pay debts as they fall due (Smith, M., C. Graves, 2005). The solvency of a Software company corresponds to its ability to pay claims. In the other words, solvency ratio is a way investors can measure the company's ability to meet its long term obligation. According to (Gour, B. and M.C. Gupta, 2012), an Software company needs to hold an extra capital and are expected to maintain 150% solvency margin as the higher the ratio the better equipped a company is to pay off its debts and maintain its sustainability in the industry. Besides, (Jones, S. D.A. Hensher 2004) had specified the key features for minimum solvency requirements. Insolvency problem may lead to the financial distress. An increase in financial distress, especially within the software sector noticed from 1980s. Even though the achievement of the Software industry over the past five years has witnessed a significant increase in gross written contributions research studies, however, there is deficiency research done on software industry distress. Therefore, it is essential to understand the concept of Software company financial distress by highlighting the feasibility of using financial ratios, capital structure and Altman Z-score as a method to detect distress. The detection of financial distress can assist software company operators to reduce the frequency of failures; thus, this averts the overall cost associate to insolvency or bankruptcy (Hernandez Tinoco, M., N. Wilson, 2013).

OBJECTIVES

- This paper briefly explained the use of capital structure specifically on debt ratio as a proxy of financial distress.
- This paper used financial ratios such as profitability ratio, liquidity ratio and size of firms as independent variables as predictors of financial distress
- This paper highlights the Altman Z-score as a method to predict financial distress.

The remainder of this paper is structured as follows: Section 2 discusses the literature review on conceptual background, Section 3 provides a methodology and conceptual framework and the conclusion are reported in Section 4.

RESEARCH METHODOLOGY

In the present research the data is taken from the secondary sources. Research methodology explains and chooses the best (in terms of quality and economy) way of doing it. The information and data for the research can be collected through primary as well as secondary sources i.e. published articles, journals, news papers, reports, books and websites. The study is mainly based on secondary data. The major sources of data analyzed and interpreted in this study related to all those companies selected is collected from "PROWESS" database, which is the most reliable and the empowered corporate database of Centre for Monitoring Indian Economy (CMIE). The profit & loss account and balance sheet of the top ten software companies for the last ten years i.e. from 31st March 2005 to 31st March 2014 were studied to get the clear picture of the capital structure. The available data between these periods has been carefully analyzed, interpreted and presented by studying the capital structure of top ten software companies. Commensurate with the objective of the study, Altman Z score method have been employed in order to arrive at certain conclusions regarding analysis of bankruptcy.

TOP TEN SOFTWARE COMPANIES IN INDIA

S.NO	NAME OF THE COMPANIES
1	Tata Consultancy Services Ltd.
2	Infosys Ltd.
3	Wipro Ltd.
4	H C L Technologies Ltd.
5	Tech Mahindra Ltd.
6	Oracle Financial Services Software Ltd.
7	I T C Infotech India Ltd.
8	Larsen & Toubro Infotech Ltd.
9	Zensar Technologies Ltd.
10	Mphasis Ltd.

Source: PROWESS CMIE Database

LITERATURE REVIEW

Financial distress is a condition where a company cannot meet nor has difficulty in paying off its current financial obligations due to the insufficient of working capital. Normally, firms might face one of two possible conflicts when they enter financial distress that is a cash shortage on the assets side of the balance sheet or a debt overhang in liabilities (Radhakrishna, G., 2012)]. The other potential concern factor of this industry is on distress of their asset value. Ratio analysis was widely used as an early warning system to identify the company's insolvency level that needs to be looked at in more detail.

The static trade-off theory represents a trade-off between tax benefit of debt and bankruptcy cost. According to this theory, any increment in the level of debt (bankruptcy and financial distress), will cause the value of the firms decrease. Firms would have more debt-taking capacity and greater tax shield when the profits are high.

Debt ratio as a proxy of financial distress indicates the portion of leverage of the firms that has relation with their assets. Debt ratio has a significant positive correlation with risk and bank credit, and a significant negative correlation with short-term debt to equity, return on equity and return on assets (Bokpin, G.A., 2009; Bokpin, G.A., A.C. Arko, 2009). (Lin, S.L., 1996) in their study found that the positive relationship between debt ratio and insolvency ratio. Debt ratios or cash flows ratios can indicate the solvency and liquidity where higher ratio values can translate into lower distress risk.

ALTMAN Z SCORE METHOD

This study attempted to use Altman Z-score as the main method to predict TCS financial distress. In 1968, Edward Altman, a financial economist and professor at New York's Stern School of Business, develop an Altman's Z (the Z-score) through a multiple discrete analysis (MDA). Even the Altman's Z-score had been criticized by early scholars because of having a poor record as predictor, but (Myers, S.C. and N.S. Majluf, 1984) claims Altman's Z – score is one of the best known, statistically derived predictive models used to forecast a firm's impending bankruptcy. (Anjum, S., 2012) also supports the Altman's Z-score model, he states that the model could predict distress and bankruptcy one, two and three years in advance even in the recent economy. While, (Hayes, S.K. 2010) suggests that the Z-score should reside in the manager's and investor's toolbox for diagnosing the possibility of future financial distress in firms. Furthermore, (Ijaz. M.S., 2013) found that a reliable tool of assessing financial health is a Z-score. Altman selects the inputs from those financial reports that are one reporting period earlier than bankruptcies. Twenty-two common financial ratio was chosen by Altman which considered can eliminate the company's size effect. Then, those ratios were divided into five categories: liquidity, profitability, leverage, solvency, and activity. Lastly, based on popularity in literature and potentially relevant to the study, he reduced his selection by choosing one ratio for each category. Therefore, the Z-Score was originally constructed as:

$$Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5$$

Where;

X1 = working capital per total assets
X2 = retained earnings per total assets
X3 = earnings before earnings and taxes per total assets
X4 = market value of equity per book value of debt
X5 = sales per total assets

Table 1: Calculation of Altman Z score method of top ten software companies from 2005 - 2014.

S.NO	SOFTWARE COMPANIES	Z SCORE VALUE
1	Tata Consultancy Services Ltd.	3.697
2	Infosys Ltd.	3.621
3	Wipro Ltd.	2.641
4	H C L Technologies Ltd.	2.140
5	Tech Mahindra Ltd.	2.677
6	Oracle Financial Services Software Ltd.	2.516
7	I T C Infotech India Ltd.	2.174
8	Larsen & Toubro Infotech Ltd.	3.505
9	Zensar Technologies Ltd.	3.062
10	Mphasis Ltd.	2.246
	TOTAL AVERAGE	2.827

FINDINGS AND CONCLUSION

The final number the Z score yields between -4 to +8. Financially sound companies show Z score above 2.99, while those scoring below 1.81 are in fiscal danger, maybe even heading bankruptcy.scores that fall between these ends indicate potential trouble.

This paper founds that the TCS, Infosys, Larson & Toubro Infotech Ltd, and Zensar technologies has Z Score value of 3.697, 3.621, 3.505 and 3.062 respectively which denotes that the companies risk is in low range. The companies were out of crisis zone and financially sound. There were no signs of the companies going bankrupt.

The companies like Wipro ltd, Tech Mahindra ltd, Oracle Financial Services Software Ltd., and Mphasis Ltd., has Z Score value of 2.641, 2.677, 2.516 and 2.246 respectively which found that these companies risk is also in low range. The companies were out of crisis zone and financially sound. But these companies are having low Z score values compared with above companies. Even though there were no signs of these companies going bankrupt.

But the HCL technologies ltd., and ITC InfoTech India ltd., has the Z score values of 2.140 and 2.174 which is very low compared with other companies, it can be possible for these companies going to bankrupt in future. So, these companies have to take extra care about to increase the Z score value and try to decrease the bankruptcy level.

The overall Z score value which denotes 2.827 is in safer zone. On the whole the top ten software companies were out of crisis zone and financially sound. There were no signs of the companies going bankrupt.

REFERENCES

Agyemang, B. and E. Agalega, 2014. Altman" s Z-Score Performance Assessment of Corporate Organisations in Ghana. Africa Development And Resources Research Institute Journal, 6(6): 14-29. Anjum, S., 2012. Business bankruptcy prediction models: A significant study of the Altman" s Z-score model. Asian Journal Of Management Research, 3(1): 212- 219 Bokpin, G.A., 2009. Macroeconomic development and capital structure decisions of firms: Evidence from emerging market economies. Studies in Economics and Finance, 26(2): 129–142. Burca, A.M. and G. Batrinca, 2014. Determinants of Financial Performance in the Romanian Insurance Market. International Journal of Academic Research in Accounting, Finance and Management Science,229-308. Gour, B. and M.C. Gupta, 2012. A Review on Solvency Margin in Indian Insurance Companies. International Journal of Recent Research and Review, (2). Hayes, S.K. K.A. Hodge and L.W. Hughes, 2010. A Study of the Efficacy of Altman" s Z To Predict Bankruptcy of Specialty Retail Firms Doing Business in Contemporary Times, Economics & Business Journal: Inquiries & Perspectives, 3(1): 122-134. Hernandez Tinoco, M., N. Wilson, 2013. Financial distress and bankruptcy prediction among listed companies using accounting, market and macroeconomic variables. International Review of Financial Analysis. Humaida, B.S., 2012. The Detrminants for Run-Off Non-Life Insurance Companies in United Kingdom. Insurance and Takaful Journal, 2: 25-32.