Journal of
Risk and Financial Management

Article

Do Traditional Financial Distress Prediction Models Predict the Early Warning Signs of Financial Distress?

Sumaira Ashraf [1,2,*], Elisabete G. S. Félix [1,2] and Zélia Serrasqueiro [2,3]

[1] Management Department, University of Évora, Largo dos Colegiais, nº 2, 7000-803 Évora, Portugal; efelix@uevora.pt
[2] CEFAGE Research Center, University of Évora, 7000-812 Évora, Portugal; zelia@ubi.pt
[3] Department of Management and Economics, University of Beira Interior, Estrada do Sineiro, 6200-209 Covilhã, Portugal
* Correspondence: executive.sumaira@gmail.com; Tel.: +351-266-740892; Fax: +351-266-740807

Received: 5 February 2019; Accepted: 1 April 2019; Published: 4 April 2019

Abstract: Purpose: This study aims to compare the prediction accuracy of traditional distress prediction models for the firms which are at an early and advanced stage of distress in an emerging market, Pakistan, during 2001–2015. **Design/methodology/approach:** The methodology involves constructing model scores for financially distressed and stable firms and then comparing the prediction accuracy of the models with the original position. In addition to the testing for the whole sample period, comparison of the accuracy of the distress prediction models before, during, and after the financial crisis was also done. **Findings:** The results indicate that the three-variable probit model has the highest overall prediction accuracy for our sample, while the Z-score model more accurately predicts insolvency for both types of firms, i.e., those that are at an early stage as well as those that are at an advanced stage of financial distress. Furthermore, the study concludes that the predictive ability of all the traditional financial distress prediction models declines during the period of the financial crisis. **Originality/value:** An important contribution is the widening of the definition of financially distressed firms to consider the early warning signs related to failure in dividend/bonus declaration, quotation of face value, annual general meeting, and listing fee. Further, the results suggest that there is a need to develop a model by identifying variables which will have a higher impact on the financial distress of firms operating in both developed and developing markets.

Keywords: financial distress; emerging market; prediction models; Z-score; logit analysis; probit model

JEL Classification: G01; G11; G17; G32; G33

1. Introduction

Financial distress is a company's inability to fulfill their debt requirements—that is, going into bankruptcy, experiencing liquidation and another form of asset seizure and distribution (Sun et al. 2014). Because a company facing financial distress will experience huge losses, being able to predict financial distress before it occurs is paramount to a business's success. The debt of a company tends to negatively affect all its stakeholders—its employees, shareholders, managers, investors, and creditors alike (Chen and Merville 1999). Pindado and Rodrigues (2005) argued that companies both locally and internationally have experienced damaging consequences, because of ignoring the warning signs of financial distress and the effects it has on a business's stability and growth. With the use of business failure prediction models, many companies have seen a significant difference in their financial stability and have even been able to lower their chances of going into bankruptcy. Bankruptcy