



A Comprehensive Analysis of Solvency, Profitability, and Liquidity in Minimizing Bankruptcy and Financial Stress

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Abstract

Purpose : This research examined a firm's liquidity, profitability, solvency, and cash position to determine their effects on financial distress and potential bankruptcy. It aimed to determine early warning signs and offered insights into financial management practices that can minimize financial distress and improve overall economic well-being.

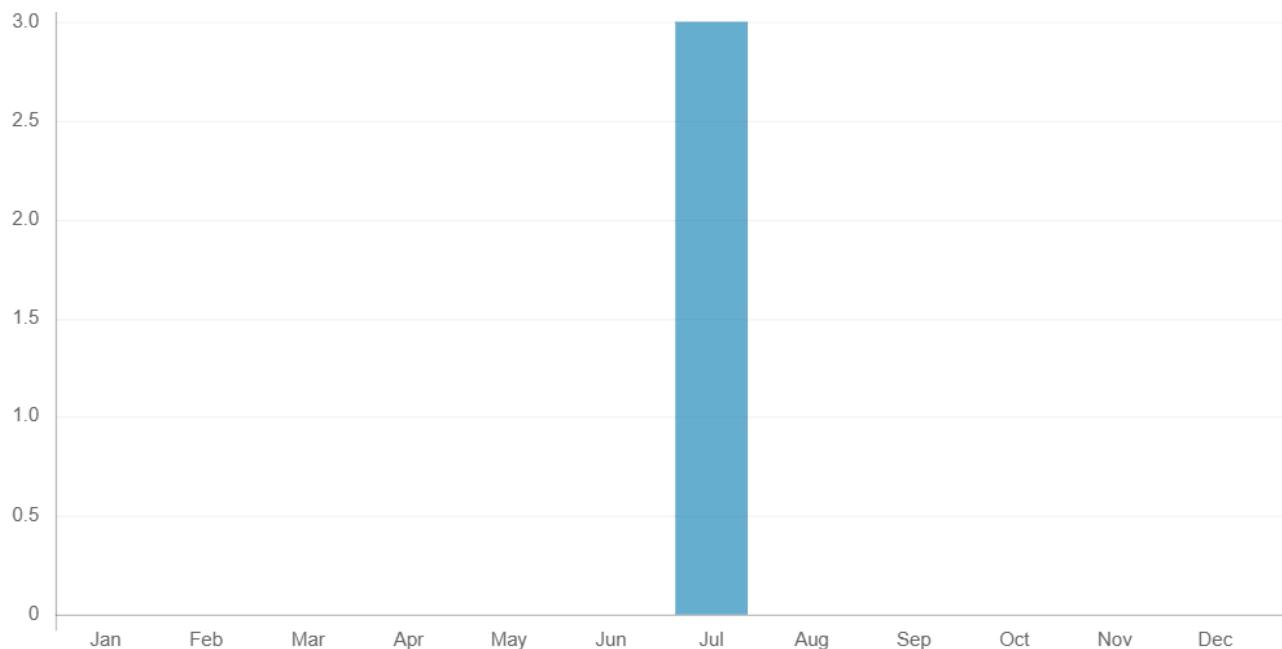
Methodology : Using data from 2014 to 2023, we evaluated the financial distress and insolvency risk of a publicly traded government manufacturing firm. The research utilized the Springate model and the logit probability model to determine the probability of distress during this period. This systematic analysis provided a clear picture of the firm's financial health and risk of bankruptcy.

Findings : The Springate model revealed the company to be financially sound for 10 years. However, the logit probability model reflected a bankruptcy risk over the past three years. The study also highlighted weaknesses in the solvency and liquidity positions of the company.

Practical Implications : The results added to theoretical wisdom and offered practical suggestions for reducing insolvency and bankruptcy risk. They also indicated methods to ensure financial stability.

Originality/Value : The majority of empirical research has focused on industry-specific liquidity distress with statistical measures. Unlike this, the present study utilized multiple discriminant analyses and applied financial models directly to a specific government-owned company. This method identified corrective measures specifically. Interestingly, very little research has been conducted on assessing the financial distress of government companies in India, so the current study is relevant in providing company-specific findings.

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References

Alifiah, M. N. (2014). Prediction of financial distress companies in the trading and services sector in Malaysia using macroeconomic variables. *Procedia - Social and Behavioral Sciences*, 129, 90–98. <https://doi.org/10.1016/j.sbspro.2014.03.652>

Altman, E. I. (1968). Financial ratios, discriminant analysis, and the prediction of corporate bankruptcy. *The Journal of Finance*, 23(4), 589–609. <https://doi.org/10.1111/j.1540-6261.1968.tb00843.x>

Altman, E. I. (1993). *Corporate financial distress and bankruptcy: A complete guide to predicting & avoiding distress and profiting from bankruptcy* (2nd ed.). John Wiley & Sons. <http://ci.nii.ac.jp/ncid/BA20382005>

Altman, E. I., Iwanicz-Drozdowska, M., Laitinen, E. K., & Suvas, A. (2017). Financial distress prediction in an international context: A review and empirical analysis of Altman's Z-Score model. *Journal of International Financial Management & Accounting*, 28(2), 131–171. <https://doi.org/10.1111/jifm.12053>

Altman, E. I., Marco, G., & Varetto, F. (1994). Corporate distress diagnosis: Comparisons using linear discriminant analysis and neural networks (the Italian experience). *Journal of Banking & Finance*, 18(3), 505–529. [https://doi.org/10.1016/0378-4266\(94\)90007-8](https://doi.org/10.1016/0378-4266(94)90007-8)

Arnold, G. (2007). *Essentials of corporate financial management* (2nd ed.). Pearson Education Limited.

Asutay, M., & Othman, J. (2020). Alternative measures for predicting financial distress in the case of Malaysian Islamic banks: Assessing the impact of the global financial crisis. *Journal of Islamic Accounting and Business Research*, 11(10), 1827–1845. <https://doi.org/10.1108/jiabr-12-2019-0223>

Balcaen, S., & Ooghe, H. (2006). 35 years of studies on business failure: An overview of the classic statistical methodologies and their related problems. *The British Accounting Review*, 38(1), 63–93. <https://doi.org/10.1016/j.bar.2005.09.001>

Beaver, W. H. (1966). Financial ratios as predictors of failure. *Journal of Accounting Research*, 4, 71–111. <https://doi.org/10.2307/2490171>

Campbell, J. Y., Hilscher, J., & Szilagyi, J. (2008). In search of distress risk. *The Journal of Finance*, 63(6), 2899–2939. <https://doi.org/10.1111/j.1540-6261.2008.01416.x>

Chadha, S., Tripathi, D. K., & Tripathi, A. (2023). What determines the efficiency of working capital among Rajasthan MSMEs? *Indian Journal of Finance*, 17(6), 45–62. <https://doi.org/10.17010/ijf/2023/v17i6/171942>

Cielen, A., Peeters, L., & Vanhoof, K. (2004). Bankruptcy prediction using a data envelopment analysis. *European Journal of Operational Research*, 154(2), 526–532. [https://doi.org/10.1016/s0377-2217\(03\)00186-3](https://doi.org/10.1016/s0377-2217(03)00186-3)

De, A., & Banerjee, A. (2017). Capital structure and its determinants during the pre and post period of recession : Pecking order vs. trade off theory. *Indian Journal of Finance*, 11(1), 44–58. <https://doi.org/10.17010/ijf/2017/v11i1/108961>

Edmister, R. O. (1972). An empirical test of financial ratio analysis for small business failure prediction. *The Journal of Financial and Quantitative Analysis*, 7(2), 1477–1493. <https://doi.org/10.2307/2329929>

Fathi, M. R., Rahimi, H., & Minouei, M. (2023). Predicting financial distress using the worst-practice-frontier data envelopment analysis model and artificial neural network. *Nankai Business Review International*, 14(2), 295–315. <https://doi.org/10.1108/nbri-01-2022-0005>

Foster, G. (1986). *Financial statement analysis* (2nd ed.). Pearson.

Geng, R., Bose, I., & Chen, X. (2015). Prediction of financial distress: An empirical study of listed Chinese companies using data mining. *European Journal of Operational Research*, 241(1), 236–247. <https://doi.org/10.1016/j.ejor.2014.08.016>

Gissel, J. L., Giacomo, D. E., & Akers, M. D. (2007). A review of bankruptcy prediction studies: 1930-present. *Accounting Faculty Research and Publications*, 25. https://epublications.marquette.edu/account_fac/25/

Halteh, K., & Tiwari, M. (2023). Preempting fraud: A financial distress prediction perspective on combating financial crime. *Journal of Money Laundering Control*, 26(6), 1194–1202. <https://doi.org/10.1108/jmlc-01-2023-0013>

Jabeur, S. B. (2017). Bankruptcy prediction using partial least squares logistic regression. *Journal of Retailing and Consumer Services*, 36, 197–202. <https://doi.org/10.1016/j.jretconser.2017.02.005>

Karas, M., & ReÅ¾ÅžkovÅž, M. (2017). The stability of bankruptcy predictors in the construction and manufacturing industries at various times before bankruptcy. *Ekonomika a Management*, 20(2), 116–133. <https://doi.org/10.15240/tul/001/2017-2-009>

Kashyap, S., & Bansal, R. (2019). Modeling financial distress prediction of Indian companies. *International Journal of Recent Technology and Engineering*, 8(1C2), 112–116. <https://www.researchgate.net/profile/Rohit-Bansal/publication/363890590>

Korol, T. (2013). Early warning models against bankruptcy risk for Central European and Latin American enterprises. *Economic Modelling*, 31, 22–30. <https://doi.org/10.1016/j.econmod.2012.11.017>

Kumar, P. R., & Ravi, V. (2007). Bankruptcy prediction in banks and firms via statistical and intelligent techniques – A review. *European Journal of Operational Research*, 180(1), 1–28. <https://doi.org/10.1016/j.ejor.2006.08.043>

Lu, Z., & Zhuo, Z. (2021). Modelling of Chinese corporate bond default – A machine learning approach. *Accounting and Finance*, 61(5), 6147–6191. <https://doi.org/10.1111/acfi.12846>

LÃ¼tz, S., & Kranke, M. (2014). The European rescue of the Washington consensus? EU and IMF lending to Central and Eastern European countries. *Review of International Political Economy*, 21(2), 310–338. <https://doi.org/10.1080/09692290.2012.747104>

Muparuri, L., & Gumbo, V. (2022). On logit and artificial neural networks in corporate distress modelling for Zimbabwe listed corporates. *Sustainability Analytics and Modeling*, 2, Article ID 100006. <https://doi.org/10.1016/j.samod.2022.100006>

Ohlson, J. A. (1980). Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research*, 18(1), 109–131. <https://doi.org/10.2307/2490395>

Platt, H. D., & Platt, M. B. (2002). Predicting corporate financial distress: Reflections on choice-based sample bias. *Journal of Economics and Finance*, 26(2), 184–199. <https://doi.org/10.1007/bf02755985>

Plumley, D., Serbera, J.-P., & Wilson, R. (2021). Too big to fail? Accounting for predictions of financial distress in English professional football clubs. *Journal of Applied Accounting Research*, 22(1), 93–113. <https://doi.org/10.1108/jaar-05-2020-0095>

Richard Paul V., & Kalyani, B. (2019). Study of financial distress of public sector undertakings companies in India. SSRN. <https://ssrn.com/abstract=3525357>

Rose, P. S., & Giroux, G. A. (1984). Predicting corporate bankruptcy: An analytical and empirical evaluation. Review of Business and Economic Research, 19(2), 1â€“12. <https://www.proquest.com/openview/cba244aa7213a4c103e34c2a2955c2a1/1?pq-origsite=gscholar&cbl=1819651>

Sari, A., Saputra, H., & Siahaan, A. (2018). Financial distress analysis on Indonesian Stock Exchange companies. International Journal for Innovative Research in Multidisciplinary Field, 4(3), 73â€“74. <https://www.researchgate.net/publication/324217667>

Singh, A. K., & Bansal, P. (2022). Financial crisis and leverage determinants : A juxtaposition of pre and post-crisis periods using HLM. Indian Journal of Finance, 16(6), 8â€“26. <https://doi.org/10.17010/ijf/2022/v16i6/169924>

Tandon, D., & Tandon, N. (2016). Credit default analytics in banks using Altman Z score. BULMIM Journal of Management and Research, 1(1), 1â€“11. <https://doi.org/10.5958/2455-3298.2016.00001.5>

TykvovÃ¡, T., & Borell, M. (2012). Do private equity owners increase the risk of financial distress and bankruptcy? Journal of Corporate Finance, 18(1), 138â€“150. <https://doi.org/10.1016/j.jcorpfin.2011.11.00>

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