Dynamic forecasting of financial distress: the hybrid use of incremental bagging and genetic algorithm—empirical study of Chinese listed corporations

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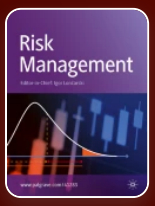

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Jiaming Liu[1] & Chong Wu [1]

Abstract

Financial distress prediction plays an important role in affecting the healthy development of the firm. Previous studies on financial distress prediction have chiefly built prediction models based on static data samples within a period of time, which cannot adapt to the changing economic environment or the changing enterprise operational environment. To achieve dynamic financial distress prediction, the incremental bagging based on selective ensemble is proposed. Genetic algorithm is employed to optimize the base classifier combination for further forecasting of financial distress per year. Financial datasets from 2005 to

2014 of Chinese real data were collected and represented in terms of significant six-variable financial ratios. In order to verify the prediction capability of the proposed method, comparative analysis with three commonly used dynamic prediction method is conducted. Empirical results indicate that the proposed method helps model producing more accurate performance on financial data stream. This method of using incremental bagging with selective ensemble and optimizing classifier combination is useful in controlling risk in financial management.

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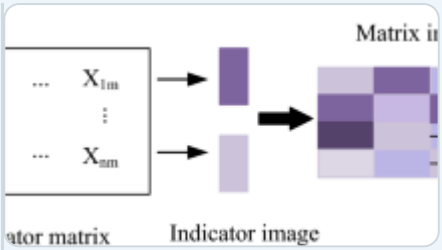

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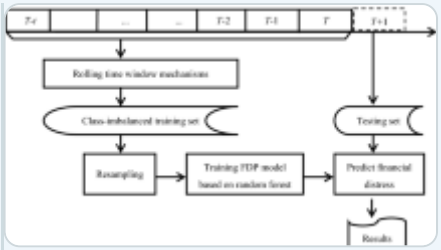

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