

Accepted Manuscript

A new random subspace method incorporating sentiment and textual information for financial distress prediction

Yan Chu, Gang Wang, Gang Chen

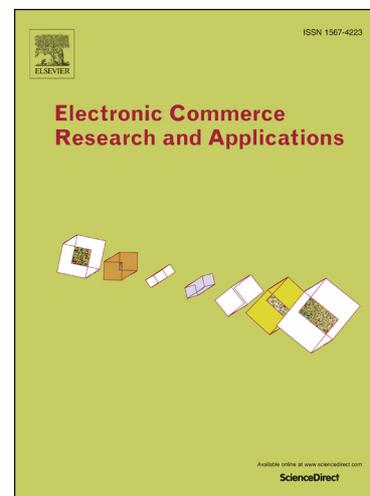
PII: S1567-4223(18)30028-0
DOI: <https://doi.org/10.1016/j.elerap.2018.03.004>
Reference: ELERAP 779

To appear in: *Electronic Commerce Research and Applications*

Received Date: 29 October 2017
Revised Date: 2 February 2018
Accepted Date: 6 March 2018

Please cite this article as: Y. Chu, G. Wang, G. Chen, A new random subspace method incorporating sentiment and textual information for financial distress prediction, *Electronic Commerce Research and Applications* (2018), doi: <https://doi.org/10.1016/j.elerap.2018.03.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



**A NEW RANDOM SUBSPACE METHOD INCORPORATING SENTIMENT
AND TEXTUAL INFORMATION FOR FINANCIAL DISTRESS PREDICTION****Yan Chu (contact author), Gang Wang, and Gang Chen**

State Grid Shanghai Electric Power Research Institute, Shanghai 200437, PR China

Email: chuyan2018@126.com

Last revised: March 8, 2018

ABSTRACT

Financial distress prediction aims to provide the early warning signals for corporate governance, which has been widely recognized as a promising way to reduce financial losses. However, non-financial predictive information, such as sentiment and textual information, and the class-imbalance problem were often neglected in previous research. Therefore, *incorporating sentiment and textual information into a random subspace method (IST-RS)*, is proposed for financial distress prediction. Sentiment and textual features are extracted as non-financial features and further integrated with the conventional financial features. To deal with the *high-dimension and class-imbalance problems*, the *ensemble random subspace method* is adopted and improved by fusing the *lasso regularized sparse method*. Experiments on the dataset derived from the China Security Market Accounting Research Database (CSMAR) were conducted to verify the effectiveness and feasibility of *IST-RS*. The results indicate that the proposed approach enables the performance of financial distress prediction to be significantly improved. Moreover, the proposed approach has outperformed the benchmark methods on high-dimensional datasets, which demonstrates that is suitable for simultaneously solving the high-dimensionality and class-imbalance problems in financial distress prediction.

Keywords: Financial distress prediction; lasso; random subspace method; sentiment information; textual information; time-span analysis.

Acknowledgments. This work was partially supported by the National Natural Science Foundation of China (91646111, 71471054), Anhui Provincial Natural Science Foundation (1608085MG150), Social Science Knowledge Popularization Foundation of Anhui Province (Y2016016), and Training Program of Application of Scientific and Technological Achievement of HeFei University of Technology (JZ2017YYPY0235).

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات