

BEAM078
Applied Empirical Accounting and Finance
Dr. Anthony Wood

Assignment version: 2022

Weighting: 100%

Deadline: TBC

Word Limit: 4000 (excluding tables, references, and appendices)

Assignment brief:

The MSc degree is awarded for demonstration of advanced knowledge of the research methods within the accounting/finance discipline, advanced knowledge of a specific field of research, advanced knowledge of data-gathering methods, scholarship in use of sources relied on including analytical tools, and a contribution to knowledge development in accounting/finance. BEAM078 provides students with the basic building blocks with which to complete these fundamental aspects of the degree program.

Your BEAM078 assignment concerns corporate failure (bankruptcy) prediction and you are required to answer the research task below by way of empirical analysis.

Task:

The year 2020 saw a large number of companies filing for bankruptcy across the globe. Your assignment will focus on US corporations which filed for Chapter 11 bankruptcy during the height of the global Covid-19 pandemic. Using the companies provided, you are tasked with developing a model which can predict the failure of these companies using data one to five years before the bankruptcy date. Your model(s) must be tested for accuracy and adhere to the minimum requirements detailed within this document. You are to draw upon both the pre-existing academic literature and any other factors which you feel may play an important predictive role within the given timeframe.

Requirements:

Using the tools provided, you are required to conduct independent research to investigate and complete the research task. Your final written document should adhere to the following structure:

- Abstract
- Introduction
- Literature Review
- Methodology
- Data
- Results
- Conclusion
- References
- Appendices (where appropriate)

Guidance:

You will be provided with a list of 56 US corporations which failed (filed for bankruptcy under Chapter 11) during 2020. These companies will be the primary focus of your analyses.

You are required, using the techniques learned within this module, to assess the ability of accounting ratios (and other factors if necessary) to predict bankruptcy. The failed company group must be compared a group of healthy non-bankrupt companies within the same time period. The sample of non-failed companies (of your choosing) should consist of **at least two healthy companies for every one bankrupt firm**. The selection of your sample should be carefully considered and the reasoning for your selection should be carefully documented within your assignment.

The task must be answered by independently selecting **5 or more financial ratios** (or other independent variables)– for which the rationale for their selection and inclusion must be clearly defined. Examples and data collection methods will be provided throughout the course.

The assignment and the research task are deliberately and broadly positioned. Given the voluminous literature and the many different ways authors have attempted to tackle this question in the past, students are granted a free license to answer the questions in any means they feel appropriate, provided that the sample of US companies provided to them is used within the analysis.

A **minimum requirement** to pass this module is that students should be able to determine if there any significant differences between failed and non-failed firms with regards to a series of single accounting ratios (at least 5 of your choosing). Using these single (univariate) measures, students should demonstrate the ability to incorporate univariate measures into a single (or series of) multivariate model(s). Univariate and multivariate models **must be measured for accuracy** (the ability to separate failed and non-failed companies), and in an appropriate manner (e.g., t-tests, contingency tables, ROC curves).

No validation of model accuracy is required. Given the contemporaneous nature of this study there is limited data available for a validation sample.

Students may wish to base their work upon a prior published study (e.g. Altman, 1968), this is acceptable provided that the replication contains a multivariate element and that a detailed discussion is provided as to why the use of the model is appropriate under the given setting. If this approach is taken then inferences must be drawn between the findings of the original paper, and those findings produced by the student. Differences are likely to reside in the accuracy and coefficients of the model are will likely be due to country of study, the era in which the study was conducted, and the types of company which were analysed. These must be detailed and explained in detail within the results.

Credit will be awarded for originality and plagiarism in any form is not tolerated by the University of Exeter Business School. The assignment is an individual piece of research and must be treated as such.

Students will be assessed on their ability to:

- Demonstrate knowledge of the research topic;
- Critically appraise relevant research;
- Provide a clear understanding of the methodology;
- Interpret results;
- Produce a clearly written, well-structured report.

Continued over page.

Recommended reading:¹

- Agarwal, V., & Taffler, R. J. (2007). Twenty-five years of the Taffler z-score model: does it really have predictive ability? *Accounting and Business Research*, 37(4), 285-300.
- Agarwal, V., & Taffler, R. J. (2008). Comparing the performance of market-based and accounting-based bankruptcy prediction models. *Journal of Banking and Finance*, 32(8), 1541-1551.
- Altman, E. I. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *Journal of Finance*, 23(4), 589-609.
- 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.
- Beaver, W. (1966). Financial Ratios as Predictors of Failures. *Journal of Accounting Research*, 4(3)(Supplement), 71-102.
- Jackson, R., & Wood, A. (2013). The Performance of Insolvency Prediction and Credit Risk Models in the UK: A Comparative Study. *The British Accounting Review*, 45 (3), 183-202
- Ohlson, J. (1980). Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research*, 18(1), 109-131.

¹ There are many papers relating to corporate failure and its prediction and this list is provided as a starting point for your research. Students are highly encouraged to engage in independent reading of additional sources of material.