Feedback on the Project Proposal Revision of Jack Wong and Daniel Fu

In this revised submission, the authors have thoroughly addressed the concerns raised in my previous review. Accordingly, the points deducted in the first round have been reinstated.

In this round, my feedback will focus on the frequentist and Bayesian analyses. Please refer to the itemized comments below and address each point carefully in your final project report. When submitting the final report, please include a cover letter that responds to each comment point by point and describes how the revisions have been incorporated.

(1) In Section 3.2, you fit separate logistic regression models by sector, while in Section 3.3 you fit a mixed-effects model with firm-level random intercepts and slopes. Would you also consider a pooled logistic regression that includes sector fixed effects? This would allow you to account for systematic differences across sectors while still borrowing strength across the full dataset, and it provides a useful middle ground between fully separate sector-specific models and the firm-level random effects specification. Specifically, consider (i) a pooled logistic model with sector fixed effects, and (ii) a pooled logistic model with sector fixed effects plus interactions for predictors whose effects you expect to vary by sector. Please compare these with the sector-specific models and the mixed-effects model using AIC/BIC and predictive performance.

(2) In Section 3, you consider three modeling approaches. Please provide a systematic comparison of these three models. In particular, use formal model comparison criteria such as AIC, BIC, and leave-one-out cross-validation (or other appropriate predictive performance measures) to evaluate their relative performance. A structured comparison will help justify the final model choice.

(3) Please perform comprehensive model diagnostics and model checking for the final selected model. This should include appropriate diagnostic plots and assessments to evaluate model assumptions, goodness-of-fit, and the presence of influential observations. You may find useful information on the following webpage: https://sscc.wisc.edu/sscc/pubs/RegDiag-R/logistic-regression.html

(4) The Bayesian analysis is currently missing from this submission. Please complete it as soon as possible to ensure that you are ready to present your project in Week 9.