

THE BENEFITS OF COLLEGE ATHLETIC SUCCESS: AN APPLICATION OF THE PROPENSITY SCORE DESIGN

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April 24, 2024

Abstract

This paper employs a propensity score design to investigate the causal effects of college football success on donations and applications. By leveraging data on bookmaker spreads to estimate game outcomes, the study overcomes challenges in treatment assignment and dynamically evolving treatment effects throughout the season. Results indicate robust evidence of football success positively influencing athletic donations, applicant numbers, acceptance rates, in-state enrollment, SAT scores, and academic reputation, particularly within elite conferences.

Literature Review

The literature on college athletic spending and its impact on student attraction and donations shows conflicting findings. While some studies suggest that athletic success in football and basketball leads to increased applications and contributions, others find mixed evidence or no significant impact. One of the main challenges in these studies is the nonrandom assignment of athletic success, leading to issues such as selection bias and reverse causality. This makes it difficult to estimate causal effects using observational data.

Methodology

The methodology employed in the study utilizes a propensity score design to estimate the causal effects of college football success on various outcomes such as donations, applications, and enrollment. This approach leverages bookmaker spreads to calculate the probability of winning each game, which is then used to adjust for various probabilities, allowing for an estimation of causal impacts under specific assumptions.

Findings



Machine Learning

Replacing linear regressions with lasso regressions and random forest to find a more robust way to handle subset selection. We also use gradient boosting to estimate the propensity scores.

Conclusions

The study finds that success in college football positively affects alumni donations, application rates, and academic reputation, while also increasing in-state enrollment and SAT scores of incoming students, especially in elite conferences.

Appendix

<https://github.com/ECMT-680-Financial-Econometrics/PSM-Replication>