

Empirical research in US major professional sports leagues

The aim of the project is for the student to apply data analysis and data modeling in practice to sports data. Data analysis has by now become an extremely important and indispensable element in sports. The major American leagues have sufficient access to data for novice researchers to try out data modeling in practice. In the research project, the applicant must identify a relevant economic or social research question that can be applied to athletes or sports clubs. In the case of American team sports, performance indicators, selection processes, as well as salaries and incomes are all well documented, and publicly available databases can be accessed free of charge. During the project, the applicant must collect a database suitable for analysis, after that analyze and model it using appropriate methods. They must then summarize the results of their research in a white paper / research paper at an appropriate professional standard, as well as explain how the results fit into the existing literature.

Possible topic ideas, without being exhaustive:

- Draft classification in US major sport leagues – defining the most important drivers of draft, position etc.
- Exploratory analysis of incomes and income indicators (preferably in panel data structure to get closer to causal effects)
- Analysis of wage discrimination – important social research question. Analysis of discrimination of different age/national/ethnic groups by advanced methods such as Blinder-Oaxaca decomposition or Propensity Score Matching.
- Affect of serious injuries on new contracts and incomes. This topic requires huge amount of work and time to collect the injuries correctly.
- Own research topic in that field with own research question.

Prerequisites

- Solid mathematical and statistical (statistics, ML or econometrics) knowledge. Minimum knowledge elements: probability theory, inferential statistics (estimation theory and hypothesis testing), regression models.
- Using R or Python.
- Interest in sports and sport data analysis.

Contact

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Researches on the mentioned fields, references

Antonietti, R. (2006). Human capital, sports performance and salary determination of professional athletes. SSRN. <https://dx.doi.org/10.2139/ssrn.888535>

Hill, J. R. - Groothuis, P. A. (2017): Is There a Wage Premium or Wage Discrimination for Foreign-Born Players in the NBA?. International Journal of Sport Finance, Vol. 12. No. 3, pp. 204-221. <https://doi.org/10.1177/155862351701200302>

Kuehn, J. (2023). Adjusting for teammate effects in evaluating college prospects for the NBA draft. Journal of Productivity Analysis, 60(3), 295–314. <https://doi.org/10.1007/s11123-023-00695-y>

Rottenberg, S. (1956). The baseball players' labor market. Journal of Political Economy, 64(3), 242–258. <https://doi.org/10.1086/257790>

Simmons, R. (2007). Overpaid athletes? Comparing American and European football. WorkingUSA, 10(4), 457–471. <https://doi.org/10.1111/j.1743-4580.2007.00176.x>

Yang, C. H. - Lin, H. Y. (2011): Is There Salary Discrimination by Nationality in the NBA?: Foreign Talent or Foreign Market. Journal of Sports Economics, Vol. 13. No. 1, pp. 53-75. <https://doi.org/10.1177/1527002510391617>