

Using Data Science to Explore Salary Trends and 3-Point Shooting in the NBA

As the game of basketball evolves, the NBA has seen a significant rise in the prominence and frequency of 3-point shooting. This evolution has potentially reshaped the financial landscape of the league, especially concerning player salaries. The increasing value placed on players who can effectively score from beyond the arc raises questions about the economic dynamics within professional basketball teams and across positions.

In response to these changes, this case study seeks to analyze salary trends over time, particularly focusing on point guards and shooting guards—positions traditionally pivotal in 3-point shooting. The rise of "small ball" and high-tempo play emphasizes skill sets associated with these positions, possibly influencing their salary trajectories compared to other roles, such as power forwards and centers, who traditionally play closer to the basket.

The Context:

Recent seasons in the NBA have highlighted a strategic shift towards 3-point shooting, a trend prominently featured in team strategies and player development. This shift is quantifiable in the increasing number of 3-point shots attempted and made, which correlates with changes in player valuations and salary structures. By conducting a thorough analysis, students will engage with real-world data to uncover how these trends impact salaries and player valuation over time.

The Deliverable:

Students are tasked to:

- Construct regression models to analyze whether point guards and shooting guards are experiencing an increase in salaries over time relative to other positions.
- Develop separate graphs showing clusters or buckets for each player position to compare salary changes and 3-point shooting statistics for each position.
- Create visual representations (graphs) of 3-point shooting trends across different NBA seasons.
- Write a detailed report comprising 2-3 paragraphs that explain the observed salary and 3-point shooting trends. This report should offer insights into how the economic valuation of player roles has evolved in response to the strategic shifts in the game.

This case study not only provides a practical application of data science techniques in sports analytics but also offers a glimpse into how data-driven insights can influence strategic decisions in professional sports. By engaging with this analysis, students will gain valuable experience in handling real datasets and contributing to discussions on sports economics and player valuation.