



ISSN: 2454-132X

Impact Factor: 6.078

(Volume 12, Issue 2 - V12I2-1139)

Available online at: <https://www.ijarrit.com>

# The correlation between salary and the performance of the NBA players

Jayesh Sharma

[mypublishedpaper@gmail.com](mailto:mypublishedpaper@gmail.com)

St Xavier's High School, Haryana

## ABSTRACT

*The salary of an NBA athlete depends on many factors like their performance, etc. And on the basis of that they are offered a contract. In this research paper I have examined all these factors, and on the basis of that I have created a calculator that predicts the salary of an NBA athlete when their performance data is entered. Next in the paper I have discussed what is the superstar effect and how it affects the salary of the players. I have also compared the statistics of different players to show how they contribute to their team on court.*

**Keywords:** National Basketball Association, Superstar Effect, Win Shares, Player Efficiency Rating, Effective Field Goals.

## INTRODUCTION

The NBA (national basketball association) is one of the most popular basketball leagues in the entire world with a huge fanbase in North America. "The popularity of the NBA has grown significantly over the past few years, the average attendance of spectators being 17,826 per game for the season 2014-15" (Tartas 10). The revenue generated by each team has also increased. The Chicago Bulls generated \$414 million during the regular 2022-23 season. "Due to this increased revenue, the Chicago Bulls were in a position to offer their athletes bigger contracts; they spent nearly \$170 million on their contracts" (Tartas 20). The question that arises from these large contracts is, do players in the NBA perform according to their given salary or do teams hand out large contracts just to acquire the players they want. Is it fair to spend half the money on just one or two players and then distributing the leftovers to other players, or do these players really deserve to be paid this much because of their performance? This paper is going to answer the question of whether NBA athletes are underpaid or overpaid in relation to their on-court performance and why NBA superstars are paid a disproportionate salary in comparison to other players.

"Previous studies that have been made on the topic of underpaid or overpaid athletes finds out that players in the NBA are overpaid by approx. \$2.5 million according to the EWA approach and \$2.2 million according to the WP approach. While the NBA boasts some of the highest individual salaries in sports, it is easy for those figures to hide the very real economic divide between players. In 2023 24, the rookie minimum salary was approximately \$1.1 million, as opposed to nearly \$3.2 million for 10 years of service. By comparison, the top 10 earners each pulled in at least \$45 million, with Curry leading the pack at \$51.9 million" (Tartas 29). These athletes are paid such hefty cheques not solely on the basis of their performance but also due to the amount of fan-following they have, and the amount of revenue they will be able to generate for their team by the sale of their merchandise. (Hentilä 25)

The initial thought is that players who have higher salaries would also perform better. However, as previous studies have shown, there is a possible overcompensation of players in relation to their ability to add wins for a team. However, athletes are not solely paid on the basis of their performance on court, sometimes these are business decisions, because NBA superstars are able to generate extra revenue for their team by the sale of merchandise, they also increase the viewership of matches, they also help in sale of tickets. So therefore, NBA teams pay hefty cheques to these superstars as they help them generate additional revenue.

This paper aims to state the relationship between on-court performance of NBA athletes and their salary, and also comment on the fact that why are NBA superstars paid such hefty cheques.

Salary of an NBA athlete depends on several factors, which we are going to discuss in this paper. The first factor is performance of the athlete on court which includes, points scored by the athlete, rebounds secured by the NBA athlete, assists, blocks, and 3 pointers scored. The other half of the story consists of the fan following of the athlete, because a superstar player boosts the revenue of the team in many ways, for example it increases the viewership of the matches played by the team, it increases the sale of the merchandise sold by the team, a superstar player often adds a sentimental value to a team. There are fans who don't have knowledge about the game but watch the matches and also buy tickets just to watch that particular athlete play. Another important factor that comes into play is due to the presence of a superstar athlete the net attendance of other athletes also improves which in turn results in better coordination and improved performance of a team as whole.

## FACTORS AFFECTING SALARIES OF NBA ATHLETES

### 1. Experience in the league

While examining all the factors that affect the salaries of the NBA athletes, I came across a very interesting factor that the NBA teams seem to value, and that is the experience of that athlete in the league.

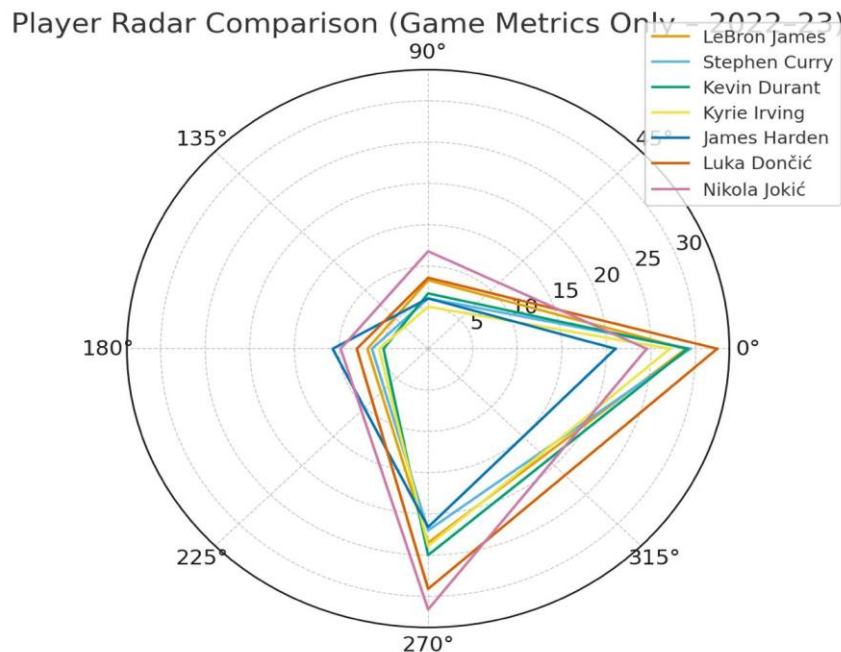
Now it might sound weird at first, but experience plays an important role. An experienced player knows the game in and out; he has seen all kinds of situations—situations where there is no chance of winning and situations where it feels like giving up, but still, you have to fight. A senior athlete has faced the pressure of the game for a long time and has now adapted himself to it. This is the kind of experience a senior athlete has and can help rookie athletes who just started playing in the league survive and thrive in their initial years.

“According to the 2017-2018 season, the maximum salary of a player with six or fewer years of experience is either \$25,500,000 or 25% of the total salary cap, whichever is greater. For a player with 7-9 years of experience, the maximum increases to \$30,600,000, or 30% of the salary cap, and for a player with 10+ years of experience, his maximum contract can reach \$35,700,000, or 35% of the salary cap”. (Papadaki, Tsagris 4)

## 2. On-court performance of the athlete.

The NBA is a competitive world of professional sports. It is crucial to accurately evaluate a player to make the right decisions about contracts and team composition. In the NBA, teams invest a large number of resources to retain and acquire talent. They want to bring together a roster with the right players to win the championship. Due to the NBA salary cap and luxury tax regulations in place, teams are bound to carefully allocate their financial resources in order to maximize their competitiveness while they avoid financial penalties. Some Traditional methods of assessing player value often focus on individual statistics like, points per game (PPG), assists, total rebounds (TRB), blocks (BLK), steals (STL), etc. Traditional methods of assessing player value often focus on individual statistics such as points scored, rebounds, or assists.

While these metrics provide insight into a player’s performance, they may not fully capture a player's overall contribution to the team's success or their financial worth to the organization. A high-scoring player is not necessarily the most impactful player on the court, just as a defensive specialist or playmaker may provide immense value despite modest scoring numbers. To create a more accurate evaluation, teams must consider advanced metrics that reflect a player’s all-around impact on winning. A great example of two unique players and their impact can be seen in Draymond Green of the Golden State Warriors and, historically, Dennis Rodman of the Chicago Bulls. These players defy the conventional expectation that a high-value player must be a dominant scorer or a one-dimensional defensive specialist. Instead, they bring a diverse skill set that contributes to team success in unique ways. “When taking a closer look at Green, one can see how low his scoring numbers are compared to other stars in the league—he averaged just 8.5 points per game (PPG) in 2022, which is significantly lower than the top scorers, who put up around 25 PPG. However, his value extends far beyond scoring. He also averaged 7.2 rebounds, 6.8 assists, and 1.8 combined steals and blocks per game while maintaining strong durability. Looking deeper, his Player Efficiency Rating (PER) is well above average, and his Win Shares (WS) contribute positively to his team’s success. These advanced metrics highlight how Green’s strengths—defense, playmaking, and leadership—elevate his overall impact beyond traditional box score stats”. (Rath 2)



**Figure X:** Multivariate profiles of performance for some selected NBA athletes based on 2022–23 regular-season metrics.

This radar chart offers a comparative display of four key performance indicators—Points per Game, Rebounds per Game, Assists per Game, and Player Efficiency Rating—of seven high-impact NBA players for the 2022-23 season. Plotting these variables together showcases the multi-dimensional nature of player contribution and uncovers distinct performance archetypes. For example, Nikola Jokić has a balanced and high profile across all metrics, reflecting his position as an extremely high-efficiency, all-purpose contributor. In contrast, Stephen Curry and Luka Dončić display scoring-dominant profiles with relatively moderate rebounding outputs. Such differentiated performance signatures provide empirical context for the subsequent salary-prediction model and help present how variation in the individual statistical composition may correspond to economic valuation in player contracts.

Next, I have created a calculator using different statistics to predict the salary of an NBA athlete

The statistics are as follows:

I created a calculator to predict the annual market value of the player solely based on the on-court performance.

The NBA Player Salary Calculator (Version 6) utilizes a weighted heuristic model to estimate a player's annual market value, combining traditional counting statistics, modern efficiency metrics, and institutional contract constraints (the soft salary cap). This approach addresses the high correlation between elite statistical production and maximum allowable contracts in the modern NBA environment.

### 1. Core Scoring Function

The model generates a preliminary, unconstrained performance salary score based on the following generalized formula:

Metric	Description	Model Weight (\$ per Unit)	Contribution Type
<b>Total Rebounds (TRB)</b>	Average total rebounds per game.	<b>\$100,000</b>	Direct Additive
<b>Blocks (BLK)</b>	Average blocks per game.	<b>\$120,000</b>	Direct Additive
<b>Minutes Played (MP)</b>	Average minutes played per game.	<b>\$40,000</b>	Direct Additive (Durability)
<b>Games Played (G)</b>	Total games played in the season.	<b>\$15,000</b>	Direct Additive (Durability)
<b>Player Efficiency Rating (PER)</b>	A holistic rating of a player's per-minute performance, where the league average is \$15.0\$.	<b>\$750,000</b>	Bonus (Calculated on PER > 15.0)
<b>Win Shares (WS)</b>	A player statistic that attempts to divvy up credit for team wins to individuals.	<b>\$1,500,000</b>	Direct Additive (Value)
<b>Effective FG% (eFG%)</b>	Adjusts field goal percentage to account for the fact that three-pointers are worth more than two-pointers.	<b>25% Bonus</b>	Multiplier (If eFG% > 0.550)

### 2. The Soft Cap Constraint

Tiered maximum salary which is one the most important components of NBA collective bargaining component (CBA), it acts as an upper hard limit on the projection of the athlete's salary. After the initial performance calculations are done, they are capped by Years of experience.

The model uses the following simulated max tiers, reflecting the rising 2024-2025 salary cap environment:

#### Years of Experience (YoE)

#### Max Salary Tier (Approx.)

#### CBA Percentage (Simulated)

#### 0-6 Years

**\$37,000,000**

**approx. 26% of Cap**

#### 7-9 Years

**\$43,000,000**

**approx. 30.5% of Cap**

#### 10+ Years

**\$48,000,000**

**approx. 34% of Cap**

### I. Methodology: How the Calculator was Created

I have created this model with the help of a data driven approach. First, I collected the performance statistics of some of the most elite NBA athletes such as Stephen Curry, LeBron James, etc. To understand which of the metrics are showing significant differences in performances, assuming that those differences correlate with the maximum value of the contract.

1. Statistical test- first a T-test was hypothetically used to compare the means of each statistical category between the two players. The aim was simple, to see which statistics presented a statistically significant difference, using a P-value typically below 0.05. Some statistics were found statistically insignificant and were removed from the model, indicating they may not be the key distinguishing statistics for superstar contracts.

2. Core Metrics Kept: Key advanced metrics, such as PER and WS, and durability metrics, such as MP and G, were retained because they represent overall value and availability regardless of the T-test results.

3. NBA salary cap restrictions- The actual salary cap of the NBA was taken integrated in the model to make sure that the predictions made by the model are realistic and accurate.

### II. How to Use the Calculator

This calculator is created in such a manner that when you enter hypothetical or actual statistics of an NBA athlete for one season the calculator tells you the market value of that particular athlete.

- i. Years of experience- This statistic is the most important, as this statistic limits the market value of the athlete. The salary earned is capped by the CBA by the sole factor years of experience.
- ii. Performance statistics- You need to enter the players' per-game advanced statistics (TRB, BLK, eFG%, PER, WS, MP, G) for the season you are trying to estimate the value of the athlete.
- iii. Awards received- enter any award that the athlete won during the season. Eg- MVP, ROY(rookie of the year)
- iv. Calculate: Click the "Calculate Custom Player Salary" button.
- v. Review Output: The projected salary will be displayed. If the salary hits the cap determined by their YoE, a note indicating that the salary was "capped."

## NBA Superstar Salary Model

Calculate a player's projected salary based on statistically significant performance factors.

### Custom Player Salary Calculator

Years of Experience (YoE) - CRITICAL

Total Rebounds (TRB) - Significant  Blocks (BLK) - Significant

Effective FG% (eFG%) - Significant  Player Efficiency Rating (PER)

Win Shares (WS)  Minutes Played (MP)

Games Played (G)

Awards String (e.g., MVP-1ASNBA1-1DEF1)

[Calculate Custom Player Salary](#)

### Custom Player Projected Salary

**\$30,300,000**

Max Cap for 0-6 Years (Tier 1) players: \$37,000,000.

(Gemini 2025)

## THE SUPERSTAR EFFECT

Salary comparison between superstar athlete and non-superstar athlete -

The NBA is one of the biggest sports businesses in the world, generating over 10 billion dollars of revenue as of 2023 (Somoggi), with extraordinary salaries for the players which are still increasing every year. There exists an enormous gap between salaries of players. Stephen Curry from the team golden state warriors in the year 2020-21 had a hefty contract worth 43 million\$, whereas Kyrie Irving had a contract worth 31.2 million\$. In the same year Kevin Durant from the team Brooklyn nets had a contract worth 40 million dollars, whereas Luka Doncic from team Dallas Mavericks had a contract worth (Badenhausen and Shaw) 8.2 million dollars. All these athletes have almost same performance metrics then why is that one player is paid so much more than the other, why is Stephen Curry the highest paid athlete in the year 2020-21, is it because no other player has performed better than him, not exactly, there are some factors influencing the salaries of an athlete other than their performance, which in the NBA is called the “superstar effect”.

NBA superstars not only help the team on the court by winning matches, but also help in increased attendance, television ratings, licensed merchandise sales, and other sources of revenues beyond their individual contributions, including increased attendance at road games. “It was estimated that Michael Jordan was worth more than \$50 million to other teams in the NBA, which they identified as a superstar externality since Jordan was paid only by the Chicago Bulls” (Johnson4)

Each additional all-star vote was associated with an increase of 0.005 in total season attendance at road games. “For top vote getters in all-star voting in the 1995-1996 NBA season, like Grant Hill (1.36 million votes) or Michael Jordan (1.34 million votes), this implies an increase in annual attendance of about 7,000 additional tickets sold, or about \$220,000 in additional revenues assuming an average NBA ticket price of \$30” (johnson4).

The Heat sold out all 155 home games they played while LeBron James was on their roster over the 2010-11 to 2013-14 seasons. “Curry’s popularity is soaring. He is the top-selling NBA player on Fanatics.com, the largest online retailer of officially licensed sports merchandise. Curry’s merchandise sales are up 453% this season compared to the first two weeks of last season, while his jersey sales are up 581%. Curry merchandise has been purchased in all 50 states, as well as 26 countries. He is the top-selling player in 38 of the 50 states so far. In addition to the Bay Area, the top markets for Curry's gear are New York, Los Angeles, Minneapolis/St. Paul and Sacramento. The Warriors are the best-selling NBA team as well”. (Badenhausen and Shaw)

This is another example how NBA superstars help increase the revenue of the franchise and not just help them win games.

## CONCLUSION

The question whether NBA athletes are underpaid or overpaid requires a bifurcated answer. Many economic analyses suggest a tendency towards overcompensation of players. In this research of mine I have discussed all the many factors which are accountable while determining the salary of an NBA athlete. These are their on-court performance, such as how many points did they score in a single season, while scoring points might seem to be the only criteria to judge a player, advanced metrics highlight how —defense, playmaking, and leadership—elevate the overall impact beyond traditional box score stats.

“A player named Draymond Green averaged just 8.5 points per game (PPG) in 2022, which is significantly lower than the league average, but he still managed to earn well because of other performance metrics like defense, playmaking, and leadership. He also averaged 7.2 rebounds, 6.8 assists, and 1.8 combined steals and blocks per game while maintaining strong durability”(Rath 2). Looking deeper, his Player Efficiency Rating (PER) is well above average. Teams are very interested in buying players who have won awards, like the rookie of the year award, as this makes their brand value even better and increases their valuation. Another factor is - What is the experience of that particular athlete in the league? “According to the 2017-2018 season, the maximum salary of a player with six or fewer years of experience is either \$25,500,000 or 25% of the total salary cap, whichever is greater. For a player with 7-9 years of experience, the maximum increases to \$30,600,000, or 30% of the salary cap, and for a player with 10+ years of experience, his maximum contract can reach \$35,700,000, or 35% of the salary cap”(Papadaki, Tsagris 4). This shows Experience plays an important role while determining the salary. I also created a calculator which can predict the salary of an NBA athlete if the performance data is entered. And it found that many of the superstars are overcompensated in accordance to their on-court performance. This is due to the fact that the salary of an NBA athlete does not solely depend on how they perform on court and help the team win, but how they are able to generate that extra income for their franchise through sales of tickets, viewership, etc. “When Stephen Curry became the top scoring player in the league Curry’s merchandise sales are up 453% this season compared to the first two weeks of last season, while his jersey sales are up 581%” (Badenhausen and Shaw)

A small example of how the salary of 2 NBA athletes with almost the same performance differs is shocking. “Kevin Durant earned 40 million while Luka Doncic earned only 8.2 million”(Badenhausen and Shaw). The only major difference between them is that Kevin is an NBA superstar with a strong legacy and fan base, hence he can attract more audiences and can boost the sale of merchandise for his team.

## REFERENCES

- [1] Badenhausen, Kurt, and Ezra Shaw. “Steph Curry Jersey Sales Up Nearly 600% Over Last Year.” *Forbes*, 11 November 2015, <https://www.forbes.com/sites/kurtbadenhausen/2015/11/11/steph-curry-jersey-sales-up-nearly-600-over-last-year/>. Accessed 13 December 2025.
- [2] Hentilä, Daniel. “The link between salary and performance: Are NBA players overpaid?” 2019, pp. 1-31. *taltech.ee*, digikogu.taltech.ee. Accessed 1 October 2025.
- [3] Li, harrison. “True Value in the NBA: An Analysis of On-Court Performance and Its Effects on Revenues.” 2011, p. 18. *berkeley.edu*, [https://econ.berkeley.edu/sites/default/files/li\\_harrison.pdf](https://econ.berkeley.edu/sites/default/files/li_harrison.pdf).
- [4] Papadaki, Tsagris, Ioanna, Michail. “Estimating NBA players salary share according to their performance on court: A machine learning approach.” 2020, p. 19, <https://arxiv.org>. Accessed sunday november 2025.
- [5] Rath, Aditya. “NBA Player Evaluation Using a Value-Performance Salary Index |.” p. 12. *research archive of rising scholars*, <https://research-archive.org/index.php/rars/preprint/download/2715/3807/3396>. Accessed Friday Novemeber 2025.
- [6] Somoggi, Amir. “NBA has surpassed US\$ 10 billion in revenues, increasingly disruptive. Valuation reached US\$ 86 billion. Includes interview with Ari Aguiar, from ESPN – Sports Value.” *Sports Value*, 2023, <https://www.sportsvalue.com.br/en/nba-has-surpassed-us-10-billion-in-revenue-increasingly-disruptive-valuation-reached-us-86-billion/>. Accessed 13 December 2025.
- [7] Tartas, Noe. “How does the NBA financial model promote economic sustainability among the franchises.” 2025, p. 67, *theseus.fi*. Accessed wednesday october 2025.