

# NBA Contract Phenomenon: Performing When It Matters

By: Jordan Warlick, Sean McDonough

University of the South, Department of Economics, Professor Elrod

Zoom Link: <https://us02web.zoom.us/j/82635571705?pwd=OWc3TXV1TVR5dkRvQIFuSHBSODZMQT09>

## Introduction

The contract phenomenon is when athletes perform at a higher level in the last year of their contract in hopes of signing another deal. Typically, a new contract is agreed upon at the finale of the old deal. At the end of the contract players are reevaluated by the organization where one of three scenarios happen: both parties agree upon a new resigning deal, the player chooses to sign with another team, or no team signs them. Interestingly, organizations offer higher payouts for increases in performance in the contract year compared to non-contract years (Stiroh 2002). These added incentives tend to cause players to increase their effort and performance. In this study we examine the effect of being in a contract year on the performance of NBA players.

## Important Literature

Key Takeaways:

- As players get older in the NBA, the change in performance from a non-contract year to a contract year flattens (White and Sheldon 2013)
- In the final year of their contract, a one-point increase in scoring average results in an increase in salary by over \$300,000 (Iossa and Rey 2014)
- Stress can effect a player positively or negatively depending on the player (Frame and Reichen 2019)
- Krautmann (2018) finds that both sides are better off in the MLB from renegotiating contracts before they conclude

## Methods

The following is our regression model:

$$\ln(Y) = \beta_0 + \delta \text{contract year} + \beta_1 \text{Age} + \beta_2 \text{Agesq} + \beta_3 \text{playoff} + \beta_4 \text{draft} + u$$

In our model the dependent variable is a log of performance (Y) as a function on age, age squared, playoff, and draft selection, with contract year being a dummy variable whether a player is in a contract year or not, and the error value u. For the playoff term, if a team did not make the playoffs, they receive a 0. Each round a team wins the more points they are rewarded (losing in the first round gets a 1, losing in the second round gets 2, etc.). For draft selection a player selected number one overall gets a 60, and so forth ending in the 60th pick getting a 1. An undrafted player receives a zero.

## Data

For this paper, we use two different types of data on players. First, we use their comprehensive basketball statistics. Second, we use the NBA players' contract details. Our study will be conducted on the 2012-2013 to 2016-2017 NBA seasons, giving us a large observational pool to analyze. This allows us to have enough observations of players in a contract year within the five season.

Table 1: Summary Statistics

Variables	Observations	Mean	Std. Dev	Min	Max
<i>Draft</i>	2,398	31.60	20.72	0	60
<i>Playoff</i>	2,398	.9095	1.28	0	5
<i>PER</i>	2,397	12.96	6.18	-30.2	129.1
<i>Contract Year</i>	2,397	.39	.49	0	1
<i>Age</i>	2,398	26.54	4.29	19	40
<i>AGESQ</i>	2,398	777.65	239.61	361	1600

Table 2: Fixed Effects on Performance

Column 2: All stars and players who played less than 40 games excluded  
Column 3 All players included

Performance	N=1,656	N=2,354
	Coefficient (RobustSE)	Coefficient (RobustSE)
Age	.3136 (.03)*	.2978 (.04)*
Age Squared	-.0060 (.0005)*	-.0060 (.0007)*
Contract Year	.0283 (.01)*	.0123 (.0177)
Playoff	-.0045 (.005)	.0046 (.0091)
Draft	-.0029 (.0008)*	-.0024 (.0008)*

\* represents significance at the 1% level

## Results

When removing the outliers of superstars and players who did not play at least 40 games from a fixed effects regression model the results indicate that performance increases 2.83% in the contract year. These results are statistically significant at all conventional levels. However, when we include all players contract year has no statistically significance effect on performance.

## Conclusion

Overall, we conclude that the implications of our study are that NBA teams' general managers should resort to giving role players and non-all stars one to two-year contracts rather than longer contracts. Our regression shows that there is an increase in performance in a player's contract year, so giving a player a longer contract gives them no incentive to improve until their final year of their contract. If NBA teams begin to give shorter contracts to their players, we feel that individual's performance would increase significantly. On the other hand, this shift in contracts would have a detrimental effect on a team's ability to retain players and create loyalty and trust between players and the organization. If there is a constant shift in a team's roster, it would be hard to continuously have chemistry and trust within the team. In conclusion, we think shorter contracts would result in an individual's personal performance increasing, but over time there would not be an increase in a team's performance due to a lack in chemistry and trust.