Discrimination in the National Basketball Association?: A Study of Race and Salaries Amongst Players

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Introduction

The National Basketball Association (NBA) is a professional basketball league in North America. The league is composed of thirty teams and is regarded as the premier men's professional basketball league globally.

The composition of race and ethnicity in the NBA has changed throughout the league's history. African Americans entered the league in 1950. According to activist Richard Lapchick, the NBA in 2020 was composed of 74.2 percent black players, 16.9 percent white players, 2.2 percent Latino players, and 0.4 percent Asian players. Modern-day NBA is a great place for black players to thrive. A study by Kahn (2005) showed that 37 out of the 42 contracts over $10 million belonged to black players. This is still true today as 80% of the league is black, and the black athletes dominate the game. Although a sizable majority of its players are black, the NBA has been criticized for racially discriminatory practices.

A large set sees the race of NBA players as a major factor that affects their salaries. This research will help determine the accuracy of this statement. We arrived at a conclusion by making use of variables such as a player's position; guard, forward or center, using race; black or not, married or not, black and married as an interaction variable, minutes per season, and years as a professional player.

In this paper, we concluded whether the race of NBA players played a vital role in their salaries or not. By using publicly available data called NBASAL from the Wooldridge textbook data set made available to us, we concluded that differences in wages do not derive from the

player's skin color. It is not easy to determine an intuitive answer to this question because of prejudice in present times.

Data

For the most time, it has been conceived that the wages of NBA players are affected by obvious factors. Some of these factors include race, marital status, health, etc. According to K. Siglar and W. Compton (2020), the maximum salary a player earns is contingent on the number of years the player has actively played in the NBA and the salary cap. Xu Li (2011) found that the player's experience and points are significant pointers in player pay. Their sample spanned from 2003-2020. Simmons and Berri (2011) study revealed that NBA players' salaries are based on blocks, rebounds, assists, and points scored.

Yang and Lin (2010) had a twofold objective in their study. Their goal was to confirm if discrimination based on a player's nationality and the market size of international players' home countries affected their compensation. They found that the salaries of international players seem to be lower than that of players born in the United States. They also found that international players from more significant markets received "preferential treatment" in the labor market.

Interestingly, Groothuis and Hill (2013) investigated the discrimination in NBA players' pay related to race. They stated that the economic literature classifies racial discrimination according to two factors: wage discrimination and exit discrimination. Testing for evidence of both types of discrimination, the authors did not find any evidence to support existing literature of racial discrimination of both types—however, a premium paid to White players during their career of 16%-20%. However, the authors did note this finding as interesting as it was not as "robust" in the overall model to contribute to pay discrimination.

The model employed in this study is consistent with the literature. The model includes wages of players, race, position played, marital status, amount of minutes played per season, and years of experience as a player. The variables are defined as follows:

- Y - Wage
- X1 – Black or Not (1 = Black; 0 = Not Black)
- X2 – Guard
- X3 – Forward
- X4 – Center
- X5 – Married or Not (1= Married; 0 = Not Married)
- X6 – Black and Married (interaction variable)
- X7 – Minutes per Season (Control Variable 1)
- X8 – Years as a professional player (Control Variable 2)

Where Y is, the dependent variable and X are independent variables. Further definition is given in parenthesis where necessary.

The summary statistics of all variables employed in the study are contained in table one. Also, figure one shows a two-way scatterplot showing annual salary (wage) and average minutes per year (minutes).

Figure 1

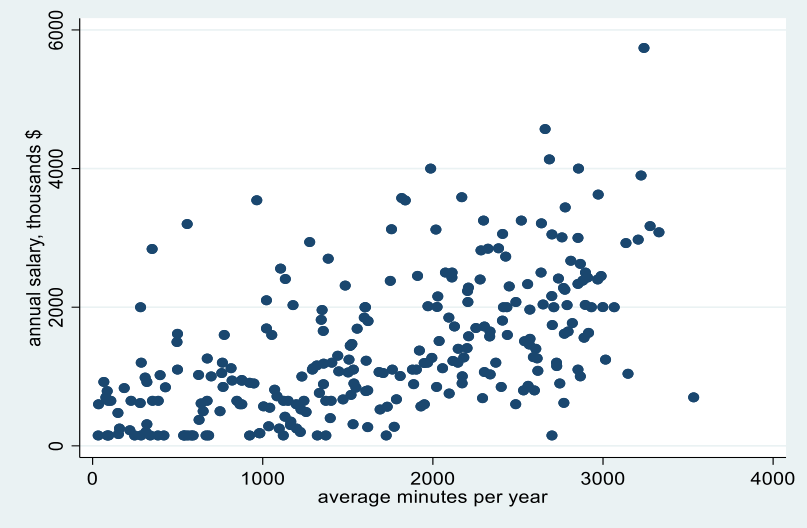

Table 1

Summary Statistics of Variables used in our study

	wage	black	guard	forward	center	marr	minutes	exper
Obs	269	269	269	269	269	269	269	269
Mean	1423.828	0.806691	0.420074	0.408922	0.171004	0.442379	1682.193	5.118959
Std. Dev.	999.7741	0.395629	0.494491	0.492551	0.377214	0.497595	893.3278	3.400062
Min	150	0	0	0	0	0	33	1
Max	5740	1	1	1	1	1	3533	18

Model

Discrimination within the basketball association, seen by differences in wages, is what this research focuses on. If discrimination is present among the players, a difference between the wages would be seen, all things equal. The main regressor that will be tested is whether a person is black. We expect a minimal but positive impact on the wages due to race. That is, being black will have a small impact on a player's wage. The marital status of a player is also considered in this model. The marital status should not affect the wages of a player. We also decided to include

an interaction variable between black and married in this model. We expect to see no significant differences as this regressor combines the two previous regressors.

With this sport having three main positions - guards, forwards, and center - there is an expectation that there will be a difference in the player's salary due to their position. The dataset includes information about the position of the players. To prevent multicollinearity in our model, the base group that the model is based on is the guard position. The guard position is the most common in the dataset; therefore, leaving it out of the model would make the most sense. With only including the forward and center position in the model, there should be a positive coefficient with a player's wage. Due to the rarity of having people tall enough to play these positions, we should expect to see centers and forwards make more money than guards in the league.

Lastly, minutes per season and years played in the NBA are expected to make an overall difference on the model. The more minutes and years played in the league, the more difference we expect to see amongst the players' wages. To summarize, the model that was used for this research question is:

Results and Analysis

We utilized a multiple linear regression to test for discrimination wages amongst players based on race. We decided to test for heteroskedasticity due to the differences in the salaries that the regressor could cause. An alternative white test was performed, and heteroskedasticity was present in the model. The robust feature was added to correct for heteroskedasticity in this model. Adding this feature to the model created a change in the standard errors. In addition, we decided to log the wage. Logging the wage allowed for a better interpretation of the data. Table 2 shows the comparison between the two models. This regression showed that amongst players,

being black had no significant influences on the log wage of the player. We can see this when looking at the significance level with the interaction variable. This interaction variable is not significant. Based on the null hypothesis that being black does not affect discrimination, we would fail to reject the null hypothesis at all levels of significance.

Table 2

Table below shows the regression results from a standard model and a robust model

	Models on the Wage (Log) - Standard				Model on the Wage (Log) - Robust			
Predictors	*Estimates*	*Confidence Interval*	*t-stat*	*P-Value*	*Estimates*	*Confidence Interval*	*t-stat*	*P-Value*
Intercept	5.36 (0.16)	5.04 -5.67	33.56	**< 0.001**	5.36 (0.22)	4.92 - 5.79	24.01	**< 0.001**
Black	0.22 (0.15)	-0.07 - 0.52	1.48	0.140	0.22 (0.21)	-0.19 - 0.64	1.05	0.295
Position (Forward)	0.22 (0.09)	0.05 - 0.40	2.49	**0.013**	0.22 (0.08)	0.06 - 0.39	2.64	**0.009**
Position (Center)	0.31 (0.12)	0.07 - 0.54	2.55	**0.011**	0.31 (0.13)	0.05 - 0.57	2.32	**0.021**
Married	0.15 (0.19)	-0.22 - 0.53	0.81	0.416	0.15 (0.24)	-0.32 - 0.63	0.64	0.524
Married x Black	-0.17 (0.21)	-0.57 - 0.24	0.82	0.415	-0.17 (0.25)	-0.66 - 0.33	-0.67	0.506
Minutes played Per Season	0.00 (0.00)	0.00 - 0.00	11.21	**< 0.001**	0.00 (0.00)	0.00 - 0.00	10.61	**< 0.001**
Years Played Professionally	0.07 (0.01)	0.05 - 0.10	5.49	**< 0.001**	0.07 (0.01)	0.04 - 0.10	4.76	**< 0.001**
	N 269 R-Squared: 0.456 SSE 94.83 Adj. R-squared: 0.441 SSR 113.36 SST 208.19				N 269 R-Squared: 0.456 SSE 94.83 Adj. R-Squared: 0.441 SSR 113.36 SST 208.19			

There are other variables that impact the log wage of players. The model shows that the player's position has an impact on the dependent variable. Being a forward and center in the league makes a positive difference compared to the guard position. The data shows that being a center increases your log wage by 31% compared to a guard. This can be seen at the 0.05

confidence level. In addition, a player that plays as a forward in the NBA makes 22% more than a guard. This is seen to be at the 0.01 confidence level.

This model shows that two other factors greatly influence the log wage. According to the data, the number of years played professionally and the minutes played per game shows to have the largest level of significance. For a one-year increase in the NBA, there is a 7% increase in the log wage of players. There seems to be no influence in players' wages in the NBA based on the average minutes played per season.

Differences in wages based on the player's race are not present in the NBA data used in this study. This could possibly be since NBA teams pay their players based on their ability rather than the player's race. NBA teams are looking for players that can get them wins. Since player performance has no impact on the race, we could expect there to be no impact on the wages.

Conclusion

In this paper, we estimated a regression model to see if being black or not influences the salaries of NBA players. The model focused on players' position, years as a professional player, players being black or not, players being married or not, players that are black and married, and minutes played per season. These variables have been used to predict the annual salary of NBA players in thousands of dollars.

The results show no positive correlation between salary and the race the player is. This implies that players' race tends not to affect their salaries basically because teams tend to focus more on players ability to win them games. A competitive firm cannot afford to discriminate. In the NBA, it appears that a team cannot remain competitive and discriminate against the good players. Research work of some scholars also agrees with this conclusion as disclosed in the earlier parts of this paper that factors other than the race or skin color players' players tend to

impact the players' salaries more. These factors include the number of active years of NBA players and player statistics such as the number of assists, blocks, rebounds, and points scored. In our model, we observed that the number of years playing at a professional level and minutes played per game impacts NBA players' salaries to a large extent.

Looking into the future for better results, we suggest including more performance statistics, categorizing black NBA players by gender (male or female) and black players of different groups (rookies and non-rookies) for their regressions.

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