# An Empirical Study of Salary Discrimination in Professional Basketball

# Joshua Reynolds<sup>a</sup>

### Abstract:

This paper investigates the racial differences in salaries amongst professional basketball players during the 2011-2012 season. Prior studies from the 1980s and 1990s show that white and black players have earned a comparable mean salary, based on performance variables and other player characteristics. However these studies have shown, that taking race in as a factor when running regressions of the data, preference exists towards white player salaries. This paper looks to see if the recent shift in demographic makeup of the NBA prevalent during the late 1990s and 2000s has led to a more equitable distribution of salaries based on race, holding all variables of past studies constant. OLS regression results reveal that during the 2011-2012 NBA season a 15% premium paid to white players continues to exist despite comparable player statistics and mean compensation.

JEL Classification: J15, L83.

Keywords: Basketball, Discrimination, NBA, Race, Salaries.

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## **1.0 INTRODUCTION**

Salary discrimination has been an issue plaguing the workforce in the United States since the Emancipation Proclamation in which Abraham Lincoln set blacks free, making them equal to whites. Since the emancipation of blacks, countless legislation has been passed constitutionally strengthening and further defining their rights as compared to those of the "normal" white individual. One such law, the Civil Rights Act of 1964, made it illegal to discriminate in one's wages based on race, color, sex, or nationality. This law was passed in order to eliminate the discrimination between races in the workforce in terms of their salaries; however the right this law intended to serve has not held up over time. Past studies by other researchers show this existence of wage discrimination plaguing minorities from the 1970s up through the 2000s in fields such as education and other labor market sectors (Blinder, 1973; Meir et al., 1989; Reskin, 2000).

The National Basketball Association (NBA) would seem to be an unlikely place to find traces of racial discrimination given its historically diverse makeup. During the 2010-2011 season blacks composed roughly 82% of the total players. The majority of NBA players over the last couple of decades have been black, which in turn has resulted in many of the big name stars being of colored ethnicity. Therefore, many find it surprising that despite the dominance of black presence in professional basketball, studies done throughout the years have revealed evidence of salary discrimination against black players beginning from the 1970s through the late 1990s.

This study aims to enhance the understanding of discrimination in professional sports, specifically basketball, and its effects on player salaries. With the changing demographics of the American labor force it is important to determine if the existence of salary disparity is still an issue prevalent for workers coming into a market previously dominated by a single race. A further analysis of current data built off prior empirical models will give insight into whether or not the combination of employer and customer discrimination found to exist in the 1980s and 1990s NBA seasons still exist in today's professional league (Kahn and Sherer, 1988; Hamilton, 1997).

This paper was driven by multiple research objectives that help to differentiate its research from prior papers: First, it aims to look at how the recent major shift in rising demographic makeup, in not only black but other international players, will impact the previous racial salary discrimination. Second, it examines to see if today's generation, a time of greater racial acceptance,

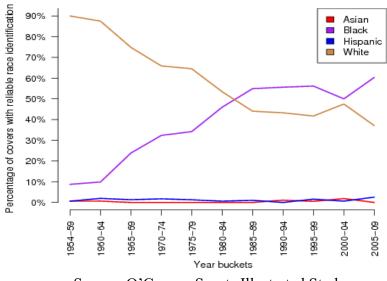
results in decreased consumer discrimination mitigating prior salary gaps. Last, it analyzes the salary discrimination topic with data 13 years newer than any past paper. The void of current empirical insight into the topic of salary discrimination amongst players in the NBA leaves necessity for an up-to-date investigation of this issue. This paper will successfully bridge the gap between past research and the present status of this debate, given the current changes in data.

The rest of the paper is organized as follows: Section 2 gives a brief overview of the trends in the data used for this research. Section 3 gives a brief literature review of past papers. Section 4 outlines the data and methodology behind the empirical model. Finally, section 5 presents and discusses the empirical results. This is followed by a conclusion in section 6, in which the significance of the findings is stated.

#### 2.0 TRENDS IN SPORTS AND INCOME

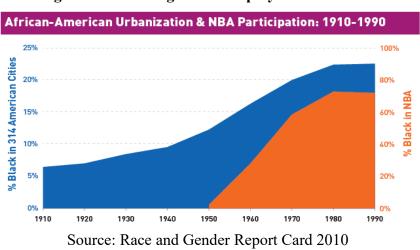
The presence of colored and international players in professional sports has been an area of great progress since the first appearance of such players in the 1940s and 1950s. With equality becoming a forefront issue in politics during this time frame of American history, advancements were able to be made on the behalf of minorities such as the breaking of the color barrier in professional sports. Since the breaking of the color barrier all areas of professional sports have seen a noticeable to dramatic increase in their demographic makeup. Figure 1 shows the percentage of Sports Illustrated covers that have identifiable race subject matter, broken down by color/ethnicity, from 1959 to 2009. As it can be seen, the percentage of Sports Illustrated covers for minorities has been steadily increasing during this time frame while that of whites has been decreasing. This trend confirms and demonstrates that the overall percentage of non-white players in professional sports has been increasing as well as their notoriety since the breaking of the color barrier in professional sports.

#### **Figure 1: Race on Sports Illustrated Covers**



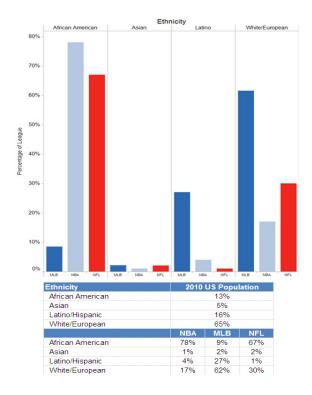
Source: O'Connor Sports Illustrated Study

Specifically, Figures 2 & 3 show how the demographic makeup of the National Basketball Association has greatly moved towards African American or Black dominance since their entrance into the sport in the 1950s. With each successive year, the number of white players has drastically decreased whereas the percentage of black players has risen to around 78% in 2008, currently at 82% in 2010. While the percentage of Blacks and other minorities in sports is on an upward trend in terms of representation, it is faltering in other aspects.



# Figure 2: Percentage of Black players in the NBA

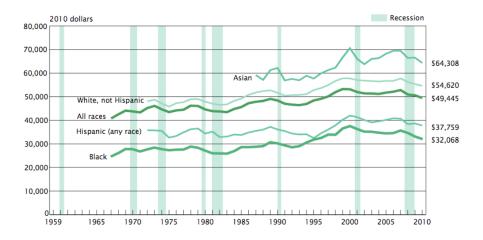
**Figure 3: Racial Breakdown of Professional Sports** 



Source: Race and Gender Report Card 2011

Discrimination and differences in salary amongst Blacks and Whites have been notable issues in labor forces for years and still occur today. Figure 4 shows the real median household incomes by race from 1967 to 2010. It can be seen through the data presented about real median income that whites have, consistently throughout the years, held a premium in income over the incomes of minorities, excluding the Asian numbers. This disparity in income not only persists in the general market of labor but transfers over into the market of professional sports. A study of the 1985-1986 salaries of professional basketball players by Kahn and Sherer (1988) reveals a 20% premium is paid to white players over black players given the same player characteristics and stats. This trend in salary discrimination continues to carry through into the 1990s as noted by Hamilton's (1997) study, determining that while the salary gap shrank, Whites' still earn 18% higher than Blacks still holding constant for player ability.

### Figure 3: Real Median Household Income by Race: 1967-2010



Source: U.S Census Bureau, Current Population Survey

# **3.0 LITERATURE REVIEW**

Salary disparity amongst individuals of differing races has been an issue heavily studied and analyzed by researchers over the last several decades. Three of these studies on racial wage gaps were done by Blinder (1973), Cotton (1988), and Neil and Johnson (1996). These studies indicate that indifferences in employee salaries must be looked at while controlling for worker knowledge, skill, and productivity in order to properly measure potential discrimination. Through regression-based models, these papers, Neil and Johnson (1996) specifically, reveal that racial disparity in wages do exist and are heavily driven by a skill gap. This skill gap is believed to be in part from each individual's family background; it was found that black familial backgrounds resulted in their less educated parents and fewer resources. The impacts, therefore, are fueled by the racial background of their family, showing that race led to a skill gap that transferred over into wage disparity. These studies show the effects of race in the labor market and the corresponding salaries earned by its employees. What is left to be answered however, is how and if the disparity found in past studies of general labor markets exists in spectator markets such as sports.

The basis of salary discrimination in sports arises from the fact that, despite black and white players being equally productive in performance, they still may earn unequal pay. To understand possible premises of salary disparity in professional sports the concepts and models of employer & customer prejudice by Becker (1971) must be taken into consideration. The Becker model for

employer prejudice offers Blacks a wage rate at some fraction less than that of a White's:  $W_b = W_w$ (1 - d), where d > 0 and represents a function of the employer's dislike for black employees. The larger the value of d the greater the prejudice of the employer. Becker's model of customer discrimination is similar in structure. The model is representative of a customer's higher perceived value and willingness to pay for identical services or products produced by whites over blacks:  $P_b$ =  $P_w(1 - c)$ , where c > 0. Becker (1971) argues that the more visible black content a product has the less customers are willing to pay for it, as c represents consumer distaste.

A prime example of the theory of customer discrimination can be seen in the market for sports memorabilia as shown in the paper by Nardinelli and Simons (1990). Their study in particular looks at the market for baseball cards separated into two categories of pitchers and hitters for white and non-white players. While controlling for the different statistics of each player group, their findings indicate that non-white players' cards sell for 10 percent less than those of whites for hitters and 13 percent less for pitchers. Although they admit that the baseball cards do not represent a large market, meaning that their results may not be the most precise proof of customer discrimination, they do believe that the sports collector is a strong representative of overall sports fans and therefore is a sufficient representation of customer discrimination in sports. An even stronger connection can be made between sports and consumer prejudice if one was to look at personal interaction of players and fans, i.e. impact upon professional salaries (Nardinelli and Simons 1990).

Following the Becker model of discrimination into the sport of professional basketball, Kahn and Sherer (1988) claim that customer discrimination is what led to the disparity in salaries amongst players in the NBA during the 1985-1986 season. Their research reveals a 20% premium paid to white players over black, holding constant all other factors. An equal mean compensation across all players shows that the variance in pay stems solely from race and not player statistics or other characteristics. They believe this discrimination comes from the fact that owners are willing to pay white players, with skills comparable to those of black players, a higher salary since fans are more interested in seeing white players over black. Kahn and Sherer (1988) draw upon this conclusion through their empirical results showing that replacing a single black player with a white one is able to increase home attendance from 8,000 to 13,000 fans per season. They believe the

reasoning for the prevalent customer discrimination arises from the fact that basketball players are much more visible than players of other sports, on and off the bench. Since teams are only composed of a maximum of 15 players and less than half of them are able to play at once, consumers have a much more direct interaction with the players than with those of other professional sports leading to higher potential levels of customer discrimination.

Hamilton (1997) furthers Kahn and Sherer's (1988) study by looking at the continuation of the discrimination of salaries in professional basketball given more recent data from the 1994-1995 season. Hamilton (1997) not only examines the salary gap between white and black players but also looks at the distribution of the salaries. Through his research he was able to show that at the low end of the salary distribution whites in fact did earn less; however it was not statistically significant. The other portion of empirical evidence coincided with the findings of Kahn and Sherer (1988) in which Whites earned an 18 percent premium over blacks at the high end of the distribution. These findings were consistent with a form of customer discrimination in which fans prefer to see white star players, representative of the high end of the distribution, all else equal (Hamilton 1997).

Contrary to these empirical findings on customer discrimination, i.e in professional sports such as basketball, were two other studies done regarding the professional sports of football and soccer. According to the research done by Gius and Johnson (2000), non-white players actually earn 10 percent more than white players. While experience, position, and draft status were all shown to be important factors in determining a player's salary, they were able to prove that a reverse wage disparity based upon race may exist in the NFL. Unlike many of the other professional sports, soccer had a mixed result in discrimination results dependent on where its market took place. While Reilly and Witt (1995, 2007) and Medcalfe (2007) show that no unequal treatment in regards to player salary based on race exists in the English Premier league or the MLS in America, Szymanski (2000) found evidence to show that these findings are dependent on location in which the market takes place. Szymanski (2000) argues that since the scope of soccer is so far reaching across multiple cultures, that market discrimination can take effect if the market exists in a region with known prejudice towards outside racial groups.

# 4.0 DATA AND EMPIRICAL METHODOLOGY

# 4.1 Data

The study uses National Basketball Association player characteristics and performance data from the 2011-2012 season. Data for the research was obtained and compared between several different sources. All player data was compiled and contrasted between the following three sites to ensure accuracy and completeness: NBAstuffer.com, Basketball-reference.com (a partner of USA Today Sports), and ESPN. Data for players traded during the 2011-2012 season was followed through between teams to represent their complete statistics for the entirety of the season. Summary statistics for the data are provided in Table 1, Table 2, and Table 3.

# Table 1 Summary Statistics (Black & White)Error! Not a valid link.

Variable	Obs.	Mean	Std. Dev.	Min	Max
SALARY	308	4,932,775	4,915,910	61,433	25,244,493
POS	308	0.53	0.50	0.00	1.00
SEAS	308	5.0	4.0	0.0	19.0
MPG	308	23.3	7.5	10.1	39.2
PPG	308	9.34	5.30	1.10	28.00
FT	308	0.730	0.131	0.000	1.000
APG	308	2.1	1.8	0.1	11.7
RPG	308	4.0	2.3	0.7	14.5
BPG	308	0.48	0.49	0.00	3.65
SPG	308	0.77	0.40	0.10	2.52
PF	308	92	48	8	257

**Table 2 Summary Statistics (Black players)** 

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 Table 3 Summary Statistics (White players)

Variable Obs. Mean	Std. Dev. Min Max
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SALARY	90	4,680,310	4,002,155	473,604	19,092,873
POS	90	0.70	0.46	0.00	1.00
SEAS	90	5.0	4.0	0.0	15.0
MPG	90	22.6	7.6	10.5	38.8
PPG	90	8.74	4.94	1.70	26.00
FT_	90	0.710	0.169	0.000	0.911
APG	90	2.0	2.0	0.2	10.7
RPG	90	4.3	2.5	1.1	13.4
BPG	90	0.50	0.46	0.00	2.00
SPG	90	0.65	0.34	0.07	2.22
PF	90	98	44	17	214

# 4.2 Empirical Model

This study adapts and modifies the empirical models constructed by Khan and Sherer (1988) and Hamilton (1997). In both papers, player performance and characteristics were used as a basis in creating an equation which determined their subsequent impact on player salary. Through the omission and addition of several variables to the models used in past research, the new equation could be written as follows:

$$Ln(SALARY) = \beta_0 + \beta_1 RACE + \beta_2 POS + \beta_3 SEAS + \beta_4 MPG + \beta_5 PPG + \beta_6 FT_+ \beta_7 APG + \beta_8 RPG + \beta_9 BPG + \beta_{10} SPG + \beta_{11} PF + \hat{e}$$

SALARY is representational of the annual wage paid to professional players in the National Basketball Association. SALARY is used as an endogenous variable. For modeling purposes, the log of SALARY is taken in order to ease the interpretation of the independent variable coefficients; a one unit increase in 'X', the explanatory variable, will result in a ß percent increase in Y.

Independent variables consist of seven variables obtained from various sources. Appendix A provides a data source, acronyms, descriptions, and expected signs for the variables. First, RACE represents the ethnicity of each basketball player. RACE is broken down into a dummy variable with the values of 0 and 1. If a player is white the value of RACE is equal to 0 and if a player is black the value is equal to 1. Second, POS corresponds to the position a player holds on his team. For testing purposes, POS is also designed as a dummy variable and proxy for FORWARD and GUARD, two variables used by Kahn and Sherer (1988) and Hamilton (1997). Players were grouped into the more generalized subcategories of FORWARD and GUARD due to the way in which coaches now structure their teams and playbook strategies. If POS is equal to 0 it signifies a player is a forward, whereas if POS is equal to 1 it signifies a player is a guard. Third, SEAS illustrates the number of seasons a player has played in both the NBA and the ABA (prior to their merger with the NBA); in layman's terms the amount, measured in years, of professional experience a player has. Fourth, MPG corresponds to the average minutes a player plays per game. Fifth, PPG signifies the average points per game a player scores. Sixth, FT is representative of each player's free throw percentage for the 2011-2012 season. Seventh, APG stands for each player's average assists per game. Eighth, RPG signifies the average rebounds per game for each player. Ninth, BPG represents a player's average blocks per game over the entire season. Tenth, SPG stands for the average steals per game for each player. Lastly, PF signifies the total number of personal fouls a player receives over the course of the season.

### **5.0 EMPIRICAL RESULTS**

The empirical results for the OLS regression of the aforementioned model are presented in Table 4 below. These results are in line and similarly model the results found by Kahn and Sherer (1988) as well as Hamilton (1997) with slight variance amongst several variables. Estimation of the regressions reveals that, out of the eleven independent variables, seven variables were statistically significant ranging from the 1-10% levels. These seven variables, that proved to be significant, consisted of RACE, POS, SEAS, MPG, PPG, FT\_, and SPG. To the contrary, the variables APG, RPG, BPG, and PF were found to be statistically insignificant. Estimation of the regression also resulted in a R<sup>2</sup> of .5442 as well as an F-statistic of 41.8988. These values indicate that there is an overall good fit of the regression.

Of the eleven independent variables tested in the OLS regression, two of them did not match their expected signs. The two variables were FT\_ and SPG. While both were expected to

have a positive effect upon a player's salary, in actuality they showed a negative impact. The negative relationships the two variables have on salary do fall in line with the findings of Kahn and Sherer (1988) and Hamilton (1997). However, the reasoning for the negative relationship could be in part due to the fact that these factors are related to defensive tactics as opposed to aggressive offensive pushes which have larger payoffs. Therefore, it might be said that higher rates of steals and free-throws could indicate players are not capitalizing and not taking enough advantage of strong offensive efforts, that pay off higher in points, but instead focus more on a conservative or safer playing strategy. One variable, PF, which could have resulted in a positive or negative relationship with salary, ended up generating a positive coefficient. While one would assume that the more personal fouls a player has, the less they will get paid since each personal foul results in one to two free throws for the opposing team, the contrary was found. This is most likely due to the fact that it is common practice to have coaches instruct their players to foul the opposing team as part of a strategy to stop the clock in the closing minutes of a game. Therefore, it is not improbable that PF has a positive impact upon salary versus a negative one.

Interpretation of the coefficients of the explanatory variable helps to assess the variables' relative impact upon the response variable, SALARY, *ceteris paribus*. With the mean data shown in Tables 2 and 3 revealing a comparable basis for player statistics between both racial categories, regression analysis of the estimated coefficients can be looked at comparatively regardless of a player's race. Based on results of the OLS model, the coefficient for POS exhibits a 20% increase in a player's salary if his position is a guard versus a forward. This value is statistically significant at the 10% level. This disparity in salary dependent on position could be due to guards being the more dominant players on the courts, in terms of leadership and ball control. By being the main focal points on the team, these players could reap the benefits of consumer prejudice in increased audience appeal, as referenced in the literature review section, and could simply demand a higher salary since their position arguably has a higher work commitment.

Results also conclude that with each additional season an individual plays in the NBA, his salary will increase roughly by 6%, at a 1% significance level. This increase in salary for each additional year of experience may be attributed to the fact that players have been able to build proven track records. Players have proven their worth by performing in a professional, high

intensity setting over the course of their careers, showing they can be relied upon and thus garnishing higher wages. Further, SALARY increases 5.45% with each additional average minute per game a player has. This estimated coefficient stands significant at the 1% level. The explanation for the positive relationship between MPG and SALARY can be drawn from the idea that the more time a player has on the court is a direct factor on his higher performance level, in turn supporting higher salary. Similar to MPG, PPG also holds a positive relationship to SALARY increasing it by 4.67% per unit increase of PPG, and is significant at the 1% level. Justification for the positive sign of PPG can be found in the fact that the more points a player averages a game, the better they are performing overall, warranting higher yearly salaries. The remaining four positively related explanatory variables to SALARY are that of APG, RPG, BPG, and PF increasing the responsive variable by 4%, .4%, 16%, and .05% respectively. Each of these, however, is not significant at the 1%, 5%, or 10% levels. The reasoning for holding no significance at these levels can be attributed to the fact that these performance statistics hold little relation to the actual skill and quality of each player. They are more secondary statistics to the player's true value or performance ability. Therefore, it is not surprising to see no significance in the estimated coefficients of these variables.

<u>VARIABLE</u>	<u>COEFFICIENT</u>	<u>STD. ERROR</u>
Constant	13.5008	0.2571
RACE	- 0.1494 *	0.0885
POS	0.2027 *	0.1072
SEAS	0.0622 ***	0.0068
MPG	0.0545 ***	0.0129
PPG	0.0467 ***	0.0154
FT	- 0.7946 *	0.3075
APG	0.0424	0.0317

Table 4: OLS Regression Results; dependent variable is *In SALARY* 

RPG	0.0041	0.0312	
BPG	0.1616	0.1079	
SPG	- 0.2691 **	0.1375	
PF	0.0005	0.0010	
R <sup>2</sup>	0.5442		
F-statistic	41.8988		
Number of Obs.	398		

Note: \*\*\*, \*\*, and \* denotes significance at the 1%, 5%, and 10% respectively

Analysis of the OLS estimation results also led to the conclusion of multiple explanatory variables having a negative impact upon SALARY. The first of the three was that of a player's FT\_, or free-throw percentage, showing that a one unit increase results in a 79% reduction in one's salary. This coefficient also held significant at the 10% level. The second of the negative relationship variables was SPG. SPG, representative of steals per game, was estimated as affecting SALARY by -26.9% per each unit increase, while being significant at the 5% level. The reasoning for these negative relationships could be in part due to the fact that these factors are defense related tactics as opposed to offense related, in which the payoffs are more beneficial for the team. Therefore, it could be said that higher rates of steals and free-throws could indicate players are not capitalizing and taking enough advantage of their team's strong offensive efforts, that pay off higher in points, but instead focusing on more conservative, safer playing strategies. The last explanatory variable that has a negative impact on SALARY is the one of most importance that this paper is framed around, RACE. Regression results show that RACE has a -14.94% impact upon SALARY when its value is equal to 1, representative of being black. This estimation is also significant at the 10% level.

With the results derived from the aforementioned empirical model, this study hopes to influence the National Basketball Association to make the appropriate policy changes to correct the long-standing salary disparity prevalent in its players' wages. Such policy changes could be the following: First, the NBA could use the formulas of the models used by Khan and Sherer (1988) or Hamilton (1997), or those of this study, and plug in player statistical data in order to generate appropriate player salaries based solely on performance. Another policy change that can

be carried out if the gap is to persist is to initiate a cap or limit on wage disparity between players of equal performance. For example, if two players on the same team or different teams perform at the same average level, there would be a cap that limits the percentile difference in their salaries. In order to successfully accomplish this difference cap, changes would also need to take place in overall team salary caps and some sort of salary equalization across the entire league.

While the results obtained from this study proved significant and relayed useful information, several limitations existed that hinder the overall quality and exactness of the results. One such example was the existence of balloon salaries on the higher end of the player salary scale. These balloon salaries were extreme outliers that can be noted in Tables 2 and 3 in comparing the mean and standard deviation columns to the maximum column. While these outliers did not downplay the validity of the results, they most likely hindered the definitiveness of the estimated coefficients. Another limitation experienced while carrying out this study was the inability to factor in stadium attendance as done in the Khan and Sherer (1988) and Hamilton studies. These past papers used home attendance in their empirical models as a variable to help explain and justify salary disparity amongst different race players through customer discrimination modeled by Becker (1971). However, through countless hours of research and attempts this information was unable to be found through online databases. Therefore, this explanatory variable was forced to be excluded in this paper's model.

# **6.0 CONCLUSION**

In summary, OLS regression analysis reveals a significant salary disparity still exists amongst black and white professional basketball players in the National Basketball Association. Estimation results show that white players still earn a 14.94% premium in salary over black players given all other factors are equivalent. These results are in line with the findings of Kahn and Sherer (1988) as well as Hamilton (1997). All three studies expose that white and black players earn an equal mean compensation based on player characteristics and skills but when factoring in race as a variable, prejudice comes to exist. However, a trend that emerges by comparing these studies shows that while a disparity exists since the 1980s through today, the percentage at which white players earn over blacks is steadily decreasing. The premium so far has decreased from 20% to 18% to roughly 15%, about 2% per decade.

The justification for these results can still be attributed to the model of customer discrimination by Becker (1971). With the number of white players in the NBA remaining increasingly minimal, consumers are still willing to pay top dollar to see these vanishing white stars play. Therefore, to the contrary, the high number of black stars in the NBA is driving down their respective salaries since their mixture of skills and personal characteristics are not as "rare" as those of a white basketball player. Conclusively, professional teams are willing to pay skilled white players more than their black counterparts since they are able to draw in a fan base willing to pay more for a chance to see a team with a roster containing a white player. While this paper did not factor in actual attendance data to completely justify the consumer discrimination model, the findings of all other results match up to those in previous studies. Therefore, its justification is one of plausible cause.

The conclusion of this paper leaves room for further research to build upon the findings of the study. As stated previously, in future research, through more precise data mining and contact with teams directly, the necessary data to factor in the variable for home attendance can be found to improve results and draw a more direct comparison to past studies. In addition, future research might allow for a more detailed breakdown of the disparity amongst black and white basketball salaries. In the Hamilton (1997) study, a quantile regression was carried out in order to show the distribution of the disparity amongst the range of professional salaries. Given more time, information, and resources, the distribution for the 2011-2012 can be found to determine the extremity of racial discrimination amongst the varying ranges of professional salaries.

<u>ACRONYM</u>	DESCRIPTION DATA SOURCE		<u>EXPECTED</u> <u>SIGN</u>
SALARY	Annual salary paid to each player	ESPN, Basketball-Reference.com	N/A
RACE	The ethnicity of a player measured as: White (0) or Black (1)	ESPN, Basketball- Reference.com, NBAstuffer.com	-
POS	The designated position of a player, measured as: Guard (0) or Forward (1)	ESPN, Basketball- Reference.com, NBAstuffer.com	+
SEAS	The total number of seasons a player has played in the ABA/NBA; representational of their years of experience	ESPN, Basketball- Reference.com, NBAstuffer.com	+
MPG	The average minutes per game a player played	ESPN, Basketball- Reference.com, NBAstuffer.com	+
PPG	The average points per game a player scored	ESPN, Basketball- Reference.com, NBAstuffer.com	+
FT_	The player's freethrow percentage for the season	ESPN, Basketball- Reference.com, NBAstuffer.com	+
APG	The average assists per game a player has	ESPN, Basketball- Reference.com, NBAstuffer.com	+
RPG	The average rebounds per game a player has. **Rebounds are not broken down into defensive or offensive rebounds but counted as a whole instead	ESPN, Basketball- Reference.com, NBAstuffer.com	+

Appendix A: Variable Description, Data Source, and Expected Sign

BPG	The average blocks per game a player has	ESPN, Basketball- Reference.com, NBAstuffer.com	+
SPG	The average steals per game a player has	ESPN, Basketball- Reference.com, NBAstuffer.com	+
PF	The player's total personal fouls for the season	ESPN, Basketball- Reference.com, NBAstuffer.com	+/-

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