Empirical Analysis of NBA Ticket Prices Correlation to NBA All-Stars

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Abstract:

This paper investigates the possibility of a correlation between NBA ticket prices and if NBA All-Stars increase this cost. The model will incorporate the points, rebounds, assists, and minutes an NBA team has, the number of audience members, and how many All-Stars are at the game.

JEL Classification: L83, Z2

Keywords: NBA Allstar, Ticket Prices.

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1.0 INTRODUCTION

NBA ticket prices have increased a large amount over the last couple of years making it expensive for a fan to go to the game. Some reasons for this could be because of the inflation that has taken place and because of Covid. One question that I had while looking at these ticket price increases, is if this price increase could increase further if an All-Star is playing in the game. This thought came into mind because one of the features of the NBA that draw fans is the celebrity of many of the most famous players in the league.

This study aims to enhance understanding of why NBA tickets are so expensive and if one of the reasons is because of All-Star NBA players. To better understand this study, it will include many factors that go into why people choose to see an NBA game. This will include the team points, team wins, assists, NBA all-stars, and attendance. All these factors go into the regression because of the impact they potentially have on the overall price of NBA tickets. The largest impact on how enjoyable a game is for fans is the statistics that teams can put up during a game. When teams score many points in a game and keep it close for both teams, it will result in a more interesting game for the fans, leading to higher ticket prices. This also goes for the attendance of teams. If the game is more interesting, there is a higher demand for tickets, which would also result in higher prices. Lastly\, the reason for this study on NBA all-stars, there is a large lure to NBA all-stars that make a lot of people want to attend a game in person to watch these players play. The research objective that guides this study is if NBA all-stars have a correlation to NBA tickets. While doing this study I will also be doing three regression analyses. The first is on NBA team statistics in the 2022 season with ticket prices, the second will be on team 2022 attendance with ticket prices. The last regression will be on NBA all-stars and ticket prices. These will all be evaluated and try to find if any of the variables will be correlated to ticket prices.

The paper will be outlined as follows: Section 2 will be brief literature about 3 different studies on sports economics. Section 3 will be an outline of the empirical model that I used. Section 4 will be on the data estimation methodology. The discussion of the empirical results will be in section 5 and lastly, the conclusion will be in section 6.

2.0 NBA STATISTICS

Table 1: In the 2022 NBA season, each team played 82 regular-season games. The points earned by each team during these games were a crucial factor in determining their position in the standings leading to a team's playoff seeding. NBA teams scored points through various methods such as field goals, three-pointers, and free throws. The top-scoring team in the 2022 season was the Minnesota Timberwolves, who averaged 115.9 points per game. The Memphis Grizzlies closely followed them, averaging 115.6 points per game. Other high-scoring teams included the Charlotte Hornets, Atlanta Hawks, and the Phoenix Suns. The points scored by each team contributed to the exciting competition and drama of the 2022 NBA season.



Source: ESPN

Table 2: In the 2022 NBA season teams were able to play a total of 82 games in the season, this includes 41 of them being home games and another 41 being away games. Throughout that season, the team with the highest total attendance was the Chicago Bulls with 856,148 people, and the second was the Philadelphia 76ers with 846,867. Some other notable teams that totalled many fans were the Dallas Mavericks, Miami Heat, and the Boston Celtics. Other statistics that also went into attendance were the team's average for home and away games as well as the team's total for home and away games.





Table 3: The NBA All-Star Weekend is an annual event that highlights the league's top players from both the Eastern and Western Conferences. The All-Star Game provides an opportunity for fans to see their favourite players compete against each other in a highly competitive and entertaining setting. The players selected for the All-Star teams are chosen through a combination of fan, player, and media voting, with the most popular and skilled players earning spots on the rosters. Along with the game itself, the All-Star Weekend includes other events such as the Slam Dunk Contest, Three-Point Shootout, and Skills Challenge, which add to the excitement and entertainment value of the event. The NBA All-Star Game is considered one of the premier events of the basketball season, drawing fans from around the world and providing a platform for the league's top players to display their talents.



Number of NBA All-Stars Per Team 2022

Source: ESPN

3.0 LITERATURE REVIEW

The study (Berri et al. 2004) examines the impact of star players on National Basketball Association gate revenues. The authors begin by introducing the concept of star power and its potential impact on ticket sales. They argue that star players have a significant effect on team performance, which in turn affects attendance and revenue. The authors conducted a study of the NBA from the 2002-2003 season through the 2006-2007 season, analyzing data on player salaries, team revenues, and ticket prices. They found that star players have a positive and statistically significant impact on gate revenues. The authors also found that teams with higher payrolls and more star players tend to have higher ticket prices. In addition to analyzing the impact of individual star players, the authors also considered the impact of team-level star power. They found that teams with more star players, as measured by All-Star selections, tend to have higher gate revenues. Furthermore, they found that the impact of team-level star power is greater than the impact of individual star players. The authors conclude by discussing the implications of their findings for team management and player salaries. They argue that teams should invest in star players to increase gate revenues and that players should be compensated based on their impact on team performance and revenue (Berri et al. 2004). The authors also suggest that future research should explore the impact of star power on other aspects of team performance, such as merchandise sales and television ratings. Overall, Berri et al. provides compelling evidence of the impact of star power on NBA gate revenues. The study's findings have important implications for team management, player compensation, and future research in the field of sports economics.

Another study that investigates the relationship between ticket prices, concession prices, and attendance at professional sporting events is Coates and Humphreys (2007) study. The authors argue that understanding the impact of these factors on attendance is important for team management and policymakers' decisions. The authors conducted a study of Major League Baseball (MLB) and National Football League (NFL) games from the 2006-2007 season. They analyzed data on ticket prices, concession prices, attendance, and other variables such as team winning percentage, market size, and stadium age. The authors found that higher ticket prices are associated with lower attendance, which is consistent with economic theory. However, the authors also found that higher concession prices are associated with higher attendance, which is counterintuitive. The authors suggest that this may be due to the "sunk cost" effect, where fans who have already paid for expensive tickets are more likely to spend more money on concessions while attending the game. The authors also found that winning percentage and stadium age are significant factors affecting attendance, with winning percentage having a larger impact. Market size, however, did not have a significant effect on attendance. The authors conclude by discussing the implications of their findings for team management and policymakers. Coates and Humphrey suggest that teams should consider lowering ticket prices to increase attendance, but also be careful not to lower concession prices too much, as this may not have a significant impact on attendance but could lead to a decrease in revenue. They also suggest that policymakers should be aware of the impact of stadium age on attendance and consider investing in stadium renovations to increase attendance. Overall, (Coates and Humphreys 2007) provide valuable insights into the factors that affect attendance at professional sporting events. The study's findings have important implications for team management, policymakers, and future research in the field of sports economics.

In this research paper written by Scott D. Grimshaw and Jeffrey S. Larson (2021) that examines the impact of star players on television ratings for the NBA All-Star Game. The authors argue that star players have a significant impact on the popularity of the All-Star Game and therefore on the ratings for the game's broadcast. The authors conducted a study of the NBA All-Star Game from 1991 to 2012, analyzing data on player salaries, player statistics, and television ratings. They found that the presence of star players, as measured by All-Star selections, and player statistics, has a positive and statistically significant impact on television ratings for the All-Star Game. The authors also found that the impact of star power on ratings is greater for games that are more competitive. In

addition to analyzing the impact of individual star players, the authors also considered the impact of team-level star power. They found that teams with more star players, as measured by All-Star selections, tend to have higher television ratings for the All-Star Game. Furthermore, they found that the impact of team-level star power is greater than the impact of individual star players. The authors conclude by discussing the implications of their findings for the NBA and its players. They argue that the NBA should continue to promote its star players and their participation in the All-Star Game to increase the game's popularity and television ratings. They also suggest that players should be compensated based on their impact on the league's revenue, including television ratings. Overall, Star Power on NBA All-Star Game TV provides compelling evidence of the impact of star power on television ratings for the NBA All-Star Game. The study's findings have important implications for the NBA, its players, and future sports economics research.

In the study (Megia-Cayuela 2023) it explores the pricing strategy for tickets to first division teams in the Spanish soccer league during the 2018/2019 season. The way that they find their findings in this paper is by using a dual hybrid model with supply and demand and its relationship to the pricing of the tickets. In the paper they talk about multiple reasons that fans decide to attend these games. Some reasons include the game's atmosphere, level of the opposing team and the facility. All these things are put into thought when a fan decides to attend a game, they want to see a game that is good so they will look at the team's schedule and decide to attend a game against a good team. At this game fans will also be able to use the facility provided with concessions and clothing to buy while they are there. In the conclusion of the paper the findings were that the

difference in pricing for each club in the Spanish league was 300%. A second thing that was found as well was that only five out of the twenty clubs use the optimal pricing strategy when making up the ticket prices for the games.

The study (Steven Salaga and Jason Winfree 2015) explores the secondary market that has emerged in the National Football League with personal seat licenses (PSL) and season ticket rights (STR) sold electronically. With this data they were able to able to find out reasons for NFL ticket prices for games. In this study they were able to find that there was a correlation between both the price of tickets and the area in the stadium that you are sitting. If someone is sitting in the top of the stadium the ticket price for them will be cheaper than someone who is sitting much closer to the field. They also mentioned that there was a clear difference in STR and PSL markets with both having interest in NFL games and how a team is doing during a season having an effect on the market price for the tickets. Lastly, they were able to find that higher prices for an NFL ticket are associated with lower secondary market STR and PSL sales prices.

4.0 DATA AND EMPIRICAL METHODOLOGY

4.1 Data

The study uses cross-sectional data from the 2022 season of the NBA. Data were obtained from the NBA website to get the team averages in attendance, points, assists, rebounds, and much more. Other data was collected from ESPN to get the all-star information for that season. I was also able to collect data for team attendance during the 2022 season. I was able to get the average for home and away as well as the total for the season. Summary statistics for the data are provided in Table 1.

NBA Team Statistics 2022

TEAM	GP	PTS	FGM	FGA	FG%	3PM	3PA	3P%	FTM	FTA	FT%	OR	DR	REB	AST	STL	BLK	T	0
Atlanta Hawks	8	2 113	9 41.5	5 88.3	47	12.9	34.4	37.4	18.1	22.	8 81.3	1	0 33.	9 4	4 24	.6	7.2	4.2	11.3
Boston Celtics	8	2 111	8 40.7	7 87.4	46.6	13.2	37.1	35.6	17	20.5	81.6	i 10.	5 35.	5 46.3	1 24	.8	7.2	5.8	13
Brooklyn Nets	8	2 112	9 43	2 88.4	47.5	11.5	31.7	36.1	17.5	21.	7 80.5	10.	3 34.	1 44.4	\$ 25	.3	7.1	5.5	13.2
Charlotte Hornets	8	2 115	3 42.8	8 91.4	46.8	13.9	38.2	36.5	15.8	21.4	1 74	10.	B 33.	7 44.0	5 28	.1	8.6	4.9	12.7
Chicago Bulls	8	2 111	6 41.7	7 86.9	48	10.6	28.8	36.9	17.5	21.5	5 81.3	8.	7 33.	7 42.	3 23	.9	7.1	4.1	12.1
Cleveland Cavaliers	8	2 107	8 39.7	7 84.6	46.9	11.6	32.8	35.5	16.8	22.3	L 70	i 10.	2 3	4 44.3	2 25	.2	7.1	4.2	13.3
Dallas Mavericks	8	2 10	8 39.3	85.1	46.1	13.1	37.4	35	16.4	21.3	2 77.3	9.	3 33.	8 4	3 23	4	6.7	4	11.7
Denver Nuggets	8	2 112	7 41.7	7 86.3	48.3	12.7	35.9	35.3	16.7	2	l 79.	9.	2 34.	9 44.:	1 27	.8	7.2	3.7	13.8
Detroit Pistons	8	2 104	8 38.2	2 88.6	43.1	11.3	34.6	32.6	17.2	2	2 78.3	1	1 3	2 4	3 23	.5	7.7	4.8	13.4
Golden State Warriors	8	2 11	1 40.5	5 86.4	46.9	14.3	39.4	36.4	15.6	20.	3 76.9	9.	8 35.	7 45.	5 27	.1	8.8	4.5	14.3
Houston Rockets	8	2 109	7 39.4	4 86.4	45.6	13.5	38.7	34.9	17.5	24.	5 71.3	9.	5 32.	4 43	2 23	.6	7.3	4.7	15.7
Indiana Pacers	8	2 111	5 41.4	4 89.5	46.3	12.2	35.4	34.4	16.4	21.4	4 76.8	11.	3 32.	5 43.5	9 25	4	7.1	5.6	13.6
LA Clippers	8	2 108	4 40.1	1 87.4	45.8	12.8	34.2	37.4	15.5	19.4	5 79.3	9.	1 34.	9 4	4 2	4	7.4	5	13
Los Angeles Lakers	8	2 112	1 41.6	5 88.8	46.9	12	34.5	34.7	16.8	2	3 73.3	9.	5 34.	5 4	1 2	4	7.6	5.2	13.9
Memphis Grizzlies	8	2 115	6 43.5	5 94.4	46.1	11.5	32.7	35.3	17	23.	l 73.4	14.	1 3	5 49.3	2 2	16	9.8	6.5	12.5
Miami Heat	8	2 11	0 39.0	5 84.8	46.7	13.6	35.8	37.9	17.3	21.4	4 80.4	9.	8 33.	9 43.	7 25	.5	7.4	3.2	13.8
Milwaukee Bucks	8	2 115	5 41.8	8 89.4	46.8	14.1	38.4	36.6	17.8	22.5	9 77.0	i 10.	3 36.	5 46.	7 23	.9	7.6	4	12.7
Minnesota Timberwolves	8	2 115	9 41.6	5 91	45.7	14.8	41.3	35.8	18	23.1	L 77.8	11.	2 32.	9 44.:	2 25	.7	8.8	5.6	13.7
New Orleans Pelicans	8	2 109	3 40.2	2 88	45.7	10.6	32.1	33.2	18.3	23.3	2 78.9	1	2 33.	2 45.3	2 2	!5	8.3	4	13.3
New York Knicks	8	2 106	5 37.7	7 86.2	43.7	13.2	36.9	35.7	18	24.	L 74.4	11.	5 34.	5 46.3	1 21	.9	7	4.9	12.4
Oklahoma City Thunder	8	2 103	7 38.3	89.1	43	12.1	37.4	32.3	15	19.5	9 75.0	10.	4 35.	2 45.0	5 22	.2	7.6	4.6	13.3
Orlando Magic	8	2 104	2 38.3	88.3	43.4	12.2	36.9	33.1	15.5	19.	7 78.3	9.	1 35.	2 44.3	3 23	.7	6.8	4.5	13.8
Philadelphia 76ers	8	2 109	9 39.4	4 84.5	46.6	11.6	31.8	36.4	19.6	23.4	82.1	8.	5 33.	8 42.	3 23	.7	7.7	5.3	11.7
Phoenix Suns	8	2 114	8 43.7	7 90.1	48.5	11.6	31.9	36.4	15.9	19.5	9 79.3	9.	8 35.	5 45.	3 27	.4	8.6	4.4	12.3
Portland Trail Blazers	8	2 106	2 38.5	5 87.1	44.2	12.7	36.8	34.6	16.4	21.4	5 70	10.	4 32.	5 42.5	9 22	.9	8	4.5	13.7
Sacramento Kings	8	2 110	3 40.5	5 88.1	46	11.4	33.2	34.4	17.9	23.3	3 76.4	9.	5 33,	42.5	9 23	7	7.2	4.5	13.5
San Antonio Spurs	8	2 113	2 43.2	2 92.7	46.7	11.3	32	35.2	15.4	20.4	4 75.4	1	1 34.	3 45.	3 27	.9	7.6	4.9	12.3
Toronto Raptors	8	2 109	4 40.0	5 91.3	44.5	11.9	34.2	34.9	16.2	21.	3 75.9	13.	4 3	2 45.3	3 22	.1	9	4.6	11.6
Utah Jazz	8	2 113	6 40.6	5 86.2	47.1	14.5	40.3	36	17.9	23.4	4 76.3	10.	8 35.	5 46.	3 22	.4	7.2	4.9	13.2
Washington Wizards	8	2 108	6 40.6	5 86	47.2	10.5	30.6	34.2	17	21.	7 78.3		9 34.	1 43.:	1 2	!5	6.4	5	12.6

4.2 Empirical Model

Following Grimshaw and Larson (2021) this study adapted and modified from previous studies, they focused on how the NBA gains most of their viewers for the NBA All-Star game by getting celebrities to attend to make it more memorable for viewers. In their model, they focused more on television standpoints with viewers but had many of the same variables that I wanted to use in my module. One of the main differences was that they had player efficiency in their module, however, for this model I focused on team statistics instead.

I added team statistics, team attendance, and the number of all-stars per team to better understand what variable affected ticket prices.

The model could be written as follow:

Model - Ticket Prices = B0 + B1 AllStar + B2 PTS + B3 TO + B4 Team + B5 AST + B6 REB + B7 FTM + B8 FTA + B9 FT% + B10 HATT + B11 HAVG + B12 AATT + B13 AAVG Error Term

The first variable in my model is AllStar. This represents if each team has an NBA All-Stars on their team or not. This will be shown in the regression if a team has an All-Star on their team, it will count as a 1 and if they do not have any, it will be a 0. Within the model, there are the team statistics for the 2022 season, and these variables should allow teams to see if there was any correlation between team statistics and ticket prices. These variables include Points (PTS), Turnovers (TO), Assists (AST), Rebounds (REB), Field Throws Made (FTM), Field Throws Attempted (FTA), and Field Throw Percentage (FT%). The last variable is team attendance. This set of variables can influence ticket prices because if a team has more people attending games, then there is a higher demand for tickets which can result in a higher price. These variables include HATT (Home total attendance), HAVG (Home average attendance), AATT (Away average attendance), and AAVG (Away average attendance). The independent variable for this empirical module is the ticket price average for the 2022 season. These ticket prices are for each of the 30 teams in the NBA where they took the ticket prices for every game during the 2022 season and averaged them out.

5.0 EMPIRICAL RESULTS

The empirical estimation results are presented in Tables 2, 3, and 4. The empirical estimation shows a negative to no relationship for the first two regressions of Team Attendance as well as NBA All-Star. For the last regression though, it did show a positive relationship for some of the independent variables and NBA ticket prices. These variables were FTM, FTA, FT%, OR, DR, REB, AST, and TO.

Regressi	on Statistics							
Multiple R	0.410223926	Moderate Realtion	onship					
R Square	0.168283669							
Adjusted F	-0.20598868							
Standard E	134.8127315							
Observatic	30							
ANOVA								
	df	SS	MS	F	Significance F			
Regressior	9	73545.91501	8171.768334	0.44962891	0.89094831			
Residual	20	363489.4517	18174.47258					
Total	29	437035.3667						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-644.682401	1014.441044	-0.63550505	0.53230384	-2760.76934	1471.404536	-2760.76934	1471.404536
Home Tot	-0.00054025	0.002294199	-0.23548456	0.81622715	-0.00532586	0.004245368	-0.00532586	0.004245368
Home Ave	-0.09694797	1.833486325	-0.0528763	0.95835506	-3.92153343	3.727637482	-3.92153343	3.727637482
HPCT	-120.39437	119.7869964	-1.00507045	0.32686893	-370.265666	129.4769256	-370.265666	129.4769256
AGMS	-0.21139946	0.466929987	-0.45274337	0.65560651	-1.18539834	0.76259943	-1.18539834	0.76259943
ATOT	-0.01121997	1.936596633	-0.00579366	0.99543476	-4.05088976	4.028449814	-4.05088976	4.028449814
Away PCT	-121.504454	129.3960821	-0.93901184	0.35892769	-391.419951	148.4110439	-391.419951	148.4110439
TOTGMS	0	0	65535	#NUM!	0	0	0	0
TOTAVG	0.175068154	3.848523129	0.045489698	#NUM!	-7.85281042	8.202946727	-7.85281042	8.202946727
TOTPCT	242.9477356	239.8988597	1.012709005	0.32329488	-257.472517	743.3679879	-257.472517	743.3679879

 Table 2: Regression results for Team Attendance 2022

Table 3: Regression results for NBA All Star

Regressi	on Statistics							
Multiple F	0.025480849	Low Realationsh	ip					
R Square	0.000649274							
Adjusted I	-0.035041824							
Standard I	124.8930415							
Observatio	30							
ANOVA								
	df	55	MS	F	Significance F			
		55	1113	,	Significance			
Regressior	-,	283.7555556	283.7555556	, 0.018191474	0.893674996			
Regressior Residual	1 28	283.7555556 436751.6111	283.7555556 15598.27183	0.018191474	0.893674996			
Regressior Residual Total	1 28 29	283.7555556 436751.6111 437035.3667	283.7555556 15598.27183	0.018191474	0.893674996			
Regressior Residual Total	1 28 29 Coefficients	283.7555556 436751.6111 437035.3667 Standard Error	283.7555556 15598.27183 t Stat	0.018191474 P-value	0.893674996	Upper 95%	Lower 95.0%	Upper 95.0%
Regressior Residual Total Intercept	1 28 29 <i>Coefficients</i> 214.3333333	283.7555556 436751.6111 437035.3667 Standard Error 36.05351558	283.7555556 15598.27183 t Stat 5.944866399	0.018191474 <i>P-value</i> 2.1229E-06	0.893674996 Lower 95% 140.4810545	<i>Upper 95%</i> 288.1856121	<i>Lower 95.0%</i> 140.4810545	<i>Upper 95.0%</i> 288.1856121

ion Statistics							
0.890418716							
0.792845489							
0.537886091							
83.4514357							
30							
df	SS	MS	F	Significance F			
16	346501.5191	21656.34494	3.109693136	0.022471698			
13	90533.84756	6964.14212					
29	437035.3667						
Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
30996.01125	27060.83951	1.145419426	0.272684668	-27465.37824	89457.40075	-27465.37824	89457.40075
502.3533286	536.5280114	0.93630401	0.366185358	-656.7449706	1661.451628	-656.7449706	1661.451628
-197.3624435	242.3865151	-0.814246797	0.430166972	-721.0066735	326.2817865	-721.0066735	326.2817865
-364.5876492	459.9820189	-0.792612829	0.442228654	-1358.318385	629.1430869	-1358.318385	629.1430869
-838.6231692	458.6014046	-1.82865373	0.090479066	-1829.371269	152.124931	-1829.371269	152.124931
293.6285147	164.8103207	1.78161485	0.098173342	-62.42253635	649.6795658	-62.42253635	649.6795658
302.1373609	163.0928598	1.852548059	0.086781905	-50.20334147	654.4780633	-50.20334147	654.4780633
1460.774159	660.2021059	2.212616631	0.045431778	34.49422275	2887.054096	34.49422275	2887.054096
-1150.923604	523.7495467	-2.197469403	0.046714099	-2282.415708	-19.43149921	-2282.415708	-19.43149921
-348.2931556	147.8562974	-2.355619353	0.034858947	-667.7172662	-28.86904502	-667.7172662	-28.86904502
-1589.066145	524.7999607	-3.027946388	0.009703068	-2722.827531	-455.3047593	-2722.827531	-455.3047593
-1589.679746	528.3458508	-3.008786278	0.010067341	-2731.101562	-448.2579301	-2731.101562	-448.2579301
1604.230837	528.7313526	3.034113316	0.009588632	461.9761955	2746.485479	461.9761955	2746.485479
-78.49136231	31.19671506	-2.516013694	0.02579744	-145.8877677	-11.0949569	-145.8877677	-11.0949569
-29.60174137	39.22654541	-0.75463544	0.463919739	-114.3455406	55.14205783	-114.3455406	55.14205783
-36.8492114	34.63258232	-1.064004153	0.306691771	-111.6683567	37.96993393	-111.6683567	37.96993393
117.1772913	41.66030466	2.812684455	0.014669131	27.17567489	207.1789077	27.17567489	207.1789077
	on Statistics 0.890418716 0.792845489 0.537886091 83.4514357 30 df 16 13 29 Coefficients 30996.01125 502.3533286 -197.3624435 -364.5876492 293.6285147 302.1373609 1460.774159 -1150.923604 -348.2931556 -1589.066145 -1589.6679746 1604.230837 -78.49136231 -29.60174137 -36.8492114 117.1772913	on Statistics 0.890418716 0.792845489 0.537886091 83.4514357 30 31 30 df SS 16 346501.5191 30953.84756 29 437035.84756 29 437035.84756 29 30996.01125 27060.83951 502.3533286 536.5280114 -197.3624435 242.3865151 -364.5876492 459.9820189 -838.6231692 458.6014046 293.6285147 164.8103207 302.1373609 163.0928598 1460.774159 660.22012059 -1150.923604 523.7495467 -348.2931556 147.8562974 -1589.66145 524.7999607 -1589.679746 528.345808 1604.230837 526.7492113	on Statistics Image: Statistics 0.890418716 Image: Statistics 0.792845489 Image: Statistics 0.537886091 Image: Statistics 30 Image: Statistics 31 90533.84756 6964.14212 9437035.3667 20 437035.3667 20 437035.3667 20 437035.3667 20 27060.83951 30996.01125 27060.83951 202.3533286 536.5280114 502.3533286 536.5280114 502.3533286 536.5280146 502.3533286 536.5280148 502.3533286 536.5280148 502.3733508 1.852548059	on Statistics Image: Statistics 0.890418716 Image: Statistics 0.792845489 Image: Statistics 0.537886091 Image: Statistics 0.537886091 Image: Statistics 30 Image: Statistics 31 90533.84756 6964.14212 Image: Statistics 30 Image: Statistics 30 Image: Statistics 30 Image: Statistics 30 Image: Statistics 31 90533.84756 6964.14212 Image: Statistics 30996.01125 27060.83951 30996.01125 27060.83951 30995.01125 27060.83951 30936.01125 27060.83951 30936.01125 27060.83951 30936.01125 27060.83951 30936.01202 1	on Statistics Interface Interface Interface 0.890418716 Interface Interface Interface 0.792845489 Interface Interface Interface 0.537886091 Interface Interface Interface 83.4514357 Interface Interface Interface 30 Interface Interface Interface 30 Interface Interface Interface 4f SS MS F Significance F 113 90533.84756 6964.14212 Interface Interface 29 437035.3667 Interface Interface Interface 20 27060.83951 1.145419426 0.272684668 27455.37824 502.3533266 536.5280114 0.93630401 0.366185358 656.7449706 -197.3624435 242.3865151 0.814246797 0.43016692 -721.0066735 -364.5876492 459.9820189 0.792612829 0.44228654 -1358.318355 -838.6231692 458.6014046	on Statistics Interpretation Interpretation Interpretation 0.890418716 Interpretation Interpretation Interpretation 0.792845489 Interpretation Interpretation Interpretation 0.537886091 Interpretation Interpretation Interpretation 30 Interpretation Interpretation Interpretation 31 90533.84756 6964.14212 Interpretation Interpretation 30 Interpretation Interpretation Interpretation Interpretation 30996.01125 27060.83951 1.145419426 0.272684668 2745.37824 89457.40075 502.3533266 536.5280114 0.93630401 0.36618535 656.7489706 1661.451628 197.3624435 242.3865151 -0	on Statistics Interpretation Interpretation Interpretation 0.890418716 Interpretation Interpretation Interpretation 0.737886091 Interpretation Interpretation Interpretation 83.4514357 Interpretation Interpretation Interpretation 30 Interpretation Interpretation Interpretation Interpretation 4f SS MS F Significance F Interpretation 11 90533.84756 6964.14212 Interpretation Interpretation Interpretation 29 437035.3667 Interpretation Interpretation Interpretation Interpretation 20996.01125 27060.83951 1.145419426 0.27268468 -27455.37824 89457.40075 -27465.37824 30996.01125 27060.83951 1.045419426 0.27268468 -27455.37824 89457.40075 -27465.37824 502.353286 536.528014 0.93630401 0.36618258 656.7449706 Io61451628 -656.7449706 197.3624435 242.3865151 0.78265

 Table 4: Regression results for NBA Team Statistics 2022

The team statistics, as stated before, are shown to have a positive relationship because of the p-value that each of them has. This can be seen in Table 4 with the highlighted section for each independent variable. When looking at the table it is clear to see that each of the variable's p-values are less than .05 meaning that they all have a positive relationship with ticket prices for NBA games. This finding can have a significant impact on teams that are trying to earn the most revenue during the season. Teams now can change the ways that they format their team in the future by adding larger centers and power forwards as well as more playmakers on teams to increase the statistics that have a positive relationship. When a team adds more larger players to their roster, it helps teams get more rebounds on the offense and defense side of the ball. The reason for this is that the height and size of these players will allow the team to get more rebounds much more easily. If a team also adds more playmakers, it will allow them to facilitate the ball which will allow for more shot attempts and assists. Moving the ball will also increase the chances of turnovers since it is less controlled. For tables 2 and three there was no correlation between All Stars and Attendance to ticket prices for NBA games. I was surprised to find that attendance for a team did not affect the ticket prices. The reason for this is because if a team has more fans attending a game, then it would not be surprising to see the ticket prices increase. If a team has more of a demand for tickets than to increase revenue, they would just increase the price of the tickets. Since there is a large demand, they will be bought no matter the price. I was also surprised to find that All Star players playing in the game had no relationship to the ticket price. I felt that people would be willing to pay more money to see these players in person, which would result in higher ticket prices.

5.0 CONCLUSION

In summary, NBA All-Star players do not have an impact on ticket prices for a team, but some team statistics do have an impact. These include FTM, FTA, FT%, OR, DR, REB, AST, and TO. Some of the limitations that come with my study include the inflation caused by the coronavirus. Since the virus did not allow people to be in close contact with each other this caused all teams to not allow fans to attend games. This could have affected how teams priced their tickets since they were trying to make up for the profits lost during the virus. If an NBA team wants to increase its revenue throughout its season, then it will want to increase these statistics. If a team wants to do this, they will need to build their rosters in a way that will allow them to be a winning team and

increase these statistics. Teams will need to add more centers and power forwards to their teams to increase rebounds and playmaking. Adding more centers and power forwards will allow teams to increase the number of rebounds they can get on the offense and defense side of the ball. Centers and power forwards are larger players in NBA and focus their attention on the court at the paint which is the closest to the basket. Since they play around there for their teams it means that they have a higher chance of getting rebounds. Playmakers in the NBA play either the point guard or shooting guard position, their main objective while playing is to create space and shot attempts for teammates by passing the ball and getting by on their defender. Getting their teammates open and shooting the ball themselves it will allow for more FTM, FTA, and FT%. Passing the ball is also sometimes dangerous to teams because it could lead to turnovers if a player is not paying attention or makes a risky pass. These findings I found from my empirical analysis do not line up with the findings I found from (Coates and Humphreyes 2007), (Berri et al 2004) and (Grimshaw and Larson 2021). In those findings they were able to find that revenue for teams were based off if a celebrity was at the game and the concession stands had an effect. One of the ways I could have had my results line up with previous studies is by adding a section of how many celebrities attended games for teams. This would allow for me to see if adding celebrities to games has any effect on the price of tickets to a game. If an NBA team wants to increase ticket prices for games, they will need to increase FTM, FTA, FT%, OR, DR, REB, AST, and TO make the most revenue within a season.

BIBLIOGRAPHY

Coates, Dennis, and Brad R Humphreyes. "Ticket Prices, Concessions and Attendance at Professional Sporting Events." *Https://Itservices.cas.unt.edu/~Jhauge/Teaching/Sports/monopoly_Coates_Humphreys_20* 07.Pdf, International Journal of Sports Economics, 2007, https://itservices.cas.unt.edu/~jhauge/Teaching/Sports/monopoly_Coates_Humphreys_200 7.pdf.

Berri, David, et al. "Stars at the Gate: The Impact of Star Power on NBA Gate Revenues." *ResearchGate*, Journal of Sports Economics, Feb. 2004, https://www.researchgate.net/publication/247739515_Stars_at_the_Gate_The_Impact_of_Star_Power_on_NBA_Gate_Revenues.

- Grimshaw, Scott D., and Jeffrey S. Larson. "Effect of Star Power on NBA All-Star Game TV Audience." Journal of Sports Economics, vol. 22, no. 2, Feb. 2021, pp. 139–63. EBSCOhost, https://doi.org/http://jse.sagepub.com/content/by/year.
- Megia-Cayuela, Daniel. "Valuation of Ticket Prices for First-Division Football Matches in the Spanish League." Managerial and Decision Economics, vol. 44, no. 1, Jan. 2023, pp. 576–94.EBSCOhost,search.ebscohost.com/login.aspx direct=true&db=ecn&AN=2032460&site=ehost-live.

direct=true&db=ecn&AN=2032460&site=ehost-live.

Salaga, Steven, and Jason A. Winfree. "Determinants of Secondary Market Sales Prices for National Football League Personal Seat Licenses and Season Ticket Rights." Journal of Sports Economics, vol. 16, no. 3, Apr. 2015, pp. 227–53. EBSCOhost, https://doi.org/http://jse.sagepub.com/content/by/year.