

## A Brief Empirical Analysis of the Demand for White Sox and Cubs Games

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The June 15<sup>th</sup> Wall Street Journal had an article on a facet of the Chicago sports scene which is frustrating to followers of one of the city's baseball teams: even when they are having a good season, [White Sox fans don't come to the park](#) like Cubs fans do.

*"The Chicago White Sox have the best record in baseball, and their best chance in years of ending an 88-year drought of World Series championships. But here in one of America's great sports towns, hardly anyone seems to care.*

*"The team has tried almost everything to lure fans, including half-price tickets on Mondays, \$1 hot dogs, and roving bands of cheerleaders who give free tickets to anyone who happens to be wearing a White Sox hat or jersey. Still, the Sox are averaging only 23,000 fans a game -- a tad more than half the capacity of their South Side home, U.S. Cellular Field. When the Sox recently faced another first-place team, the Los Angeles Angels, only about 20,000 showed up, despite delightful weather and a 2-for-1 ticket special."*

Why is this? Here are some possible reasons.

1. White Sox fans watch on the telly
2. Anger at Jerry Reinsdorf for his part in the 1994 strike
3. Fans don't like US Cellular Field per-se nor its location
4. The Cubs are simply more popular

The first one is fairly easy to dismiss. Even though the Sox tell us that they generate more TV revenue than the Cubs, I doubt this is true. The popularity of the team at the stadium is positively correlated with the popularity on the television.

To examine the other three points, I ran some simple regressions on attendance levels for the Cubs and White Sox using data from 1970-2002. The models represent simple demand equations. To explain the variation in team attendance, I used the following variables: the real price of tickets (a weighted average ticket price that accounts for differences in price by seat location), lagged team winning percentage, current team winning percentage, team slugging percentage, walks by pitchers, strikeouts by pitchers, the age of the stadium (quadratic), and dummy variables for the strike years (1994 and 1995), the Cubs, and the White Sox since 1994. I ran three models using all the variables: and OLS model, a random effects model, and a fixed effects model. I ran an OLS model as well as a random effects model. Since I did not have the ticket prices for either team for 1989 and 1990 and since the coefficients on the real ticket price were

insignificant, I re-ran both models excluding that variable. That gave me four more observations to work with.

The results can be found at the end of this document. They suggest that fans of both teams like winning, fans of both teams like offense, and White Sox fans don't seem to mind US Cellular Field.

There is some evidence that there is some anger at Jerry Reinsdorf during and since 1994. Since 1994, after controlling for the other factors, the White Sox have drawn approximately 550,000 to 600,000 fewer fans compared to the Cubs. It is hard to tell whether this is due to his part in the 1994 strike, but the evidence is consistent with this notion.

After controlling for the other factors, the Cubs have drawn approximately 400,000 to 460,000 more fans to their ballpark. This, along with the attendance hit the Sox have taken since 1994, suggests that the Cubs have drawn approximately 1,000,000 because 1. they are the Cubs and 2. they are not the White Sox. In other words, Chicago fans like the Cubs more. For the Sox, that's gotta be a Big Hurt.

Why are the Cubs more popular? I can think of a couple reasons.

1. WGN's reach and broadcasting of Cubs games in the past led to a much wider appeal for the Cubbies. I posted here on baseball teams that have premium ticket pricing. The Cubs are considered a premium game by most if not all of these teams that play the Cubs and, if you've watched a Cubs road game, you know that there are usually many Cubs fans in attendance no matter where they play.
2. Wrigleyville is an area that other clubs would kill to have surrounding their ballparks. The many bars and restaurants surrounding the ballpark, the historic qualities of the stadium, and the fact it is truly a neighborhood ballpark make Wrigley Field a tourist destination.

This is very frustrating for those connected with the Sox, but I don't expect the trend to change anytime soon. That would take some good marketing by the Sox along with some bad marketing by the Cubs. The Cubs may not always have fielded the best teams, but the Tribune knows how to milk its cash cow in spite of this.

	<b>OLS With Price</b>	<b>Random Effects with Price</b>	<b>OLS Without Price</b>	<b>Random Effects without Price</b>
	<b>Coef. (Standard Errors Below)</b>			
<b>Lagged Winning Percent</b>	2802348*** <b>505658.6</b>	2514046*** <b>638548.7</b>	2859108*** <b>476378.7</b>	2910002*** <b>639339.7</b>
<b>Current Winning Percent</b>	3133847*** <b>682357.7</b>	2300615*** <b>845450.6</b>	3428240*** <b>580598.5</b>	2320005*** <b>747161.5</b>
<b>Slugging Percent</b>	3504711*** <b>1273259</b>	2947816* <b>1611318</b>	3434975*** <b>1217122</b>	2943696* <b>1630731</b>
<b>Walks</b>	507.7979 <b>591.9876</b>	-361.0903 <b>725.3481</b>	619.0582 <b>541.101</b>	-566.1767 <b>686.5665</b>
<b>Strikeouts</b>	195.0518 <b>331.0337</b>	745.735* <b>401.3579</b>	236.5014 <b>276.4688</b>	1174.694*** <b>320.2168</b>
<b>Stadium Age</b>	-67581.32*** <b>8587.217</b>	-54241.55*** <b>10475.29</b>	-67961.18*** <b>6032.406</b>	-61090.64*** <b>7979.694</b>
<b>Stadium Age Squared</b>	767.3653*** <b>97.54088</b>	626.954*** <b>119.6812</b>	771.5108*** <b>66.56384</b>	711.6924*** <b>88.54178</b>
<b>Real Ticket Price</b>	10005.02 <b>32931.64</b>	58760.42 <b>40324.54</b>	-	-
<b>White Sox since 1994 Dummy</b>	-590801.5*** <b>165664.1</b>	-804122.2*** <b>204689.4</b>	-556127.1*** <b>143317</b>	-669324.4*** <b>191032.3</b>
<b>1994 Dummy</b>	-438977.5*** <b>182467.7</b>	-333503.1 <b>230387.9</b>	-419169.4** <b>181499.2</b>	-293153.4 <b>242312</b>
<b>1995 Dummy</b>	-414423.7*** <b>156759.2</b>	-263225.7 <b>196029.4</b>	-414741.6*** <b>155327</b>	-258021.9 <b>206121.2</b>
<b>Cubs Dummy</b>	419513.1*** <b>74670.97</b>	-	455377.2*** <b>67815.58</b>	-
<b>intercept</b>	-2420150*** <b>709391.1</b>	-1989490** <b>895199.7</b>	-2610955*** <b>651623.5</b>	-2031027** <b>866927.5</b>
R-Sq	0.9057	-	0.903	-
R-sq: within	-	0.8654	-	0.8546
between	-	1	-	1
overall	-	0.845	-	0.822
Wald chi2	-	272.63***	-	253.95