Are MLB Players Losing Out by Avoiding Arbitration?

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Intro

This paper uses historical MLB arbitration data from Spotrac.com to determine if MLB players are losing by avoiding hearings rather than pursuing cases against their teams. First, I read about arbitration, examining the choices that players must make and looking at past research into the players' decisions. I then ran two regressions to see whether players who decided to go to arbitration hearings make good on their production from the previous season with their new contracts. The goal is to determine whether players who avoid case hearings forfeit substantial earnings they could have obtained by going to a hearing against their team.

Lit Review

Major League Baseball's arbitration system is the way in which players are paid through their first six seasons in the major leagues and is based on service time and performance. A player accrues one year of MLB service-time after spending 172 days on the 26-man roster or on injured list during the season (Major League Baseball). After three years of service time, all players become eligible for arbitration. However, there is an additional "Super 2" distinction for the top 22% of players in service-time rankings for players between two and three years of service at season's end.

Once reaching arbitration, players will begin to negotiate with their team in an effort to agree on a one-year contract that both sides feel reflects the players value. If they cannot come to an agreement by a given deadline, both sides submit figures to an independent panel of

arbitrators who hear arguments from both sides and pick either the team or the players figure which will then serve as the player's salary for the upcoming season (Major League Baseball).

Typically, teams and players come to an agreement and avoid arbitration. Monhait (2004) finds that in early days of arbitration (1974- 1993), about 20% of cases went to a hearing, a number that was dwindling down to less than 12% when his paper was written in 2004. By 2011, only 2.5% of cases proceeded to hearings. Vishwanathan (2019) argues that the main reason for this is risk aversion by both the players and teams. By avoiding the hearing both sides get to eliminate the potential losses they get from losing the hearing by coming to an agreement, as well as potential damages to the player-club relationship. Vishwanathan also shows that in general, there is about a 50/50 split in player and team arbitration wins, showing that the avoidance is not driven by lack of success, but instead by the risks and costs involved.

Recent arbitration data shows a slight increase in the number of players going to hearings. In my dataset of 297 1+ WAR players since 2021, 30 cases involved the player and team going to a hearing, closer to early 2000s levels than those observed in the 2010s. However, this still aligns with previous research showing that players and teams tend to prefer maintaining positive relationships, avoiding risk and minimizing losses (Vishwanathan 2019).

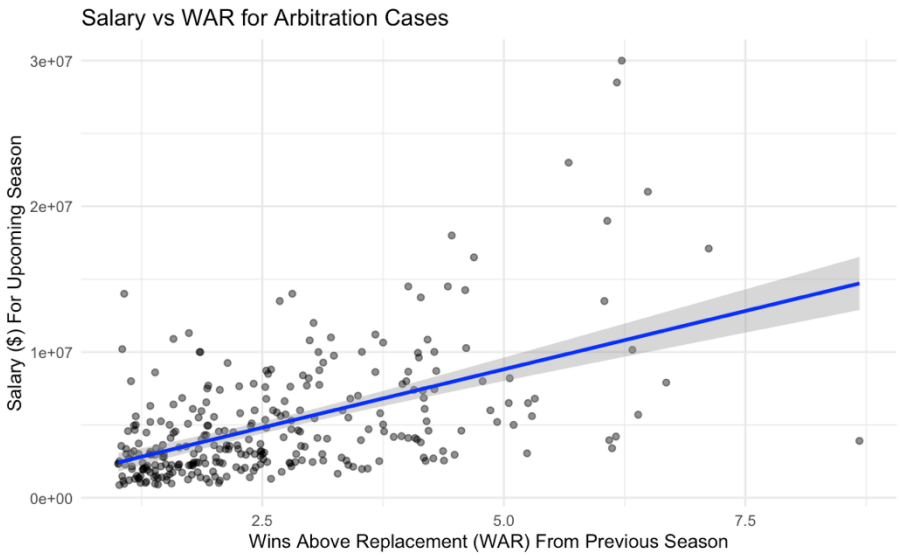
Research has shown that the salaries awarded hearing is influenced by two main factors: service time and performance metrics. Wasserman (2013) finds that WAR is significant in predicting player salaries, while Pollack (2017) finds that similar "advanced" metrics such as OBP and ISO have become more significant in predicting player salaries over time as analytics have become a larger part of the sport.

While previous research has looked at historical arbitration outcomes and found that players tend not to go to hearings, little has been written about if this decision is financially correct for players. This paper seeks to fill that gap by analyzing whether; in avoiding risk, MLB players may also be forgoing financial opportunities.

Data and Methodology

After reviewing prior research, I first decided what the sample size for my dataset would be. Ultimately, I chose to start my timeframe in the 2021-2022 off-season as that is when a new CBA was introduced to the league, and I did not want to include data from the COVID-shortened 2020 season to avoid skew from the small sample size. I also only looked at players who had recorded at least 1 WAR in the previous season, as I am mainly trying to analyze the decisions of full-time MLB players and did not want my data skewed by partial or inconsequential seasons.

From *Spotrac.com* I collected the following data on 297 1+ WAR players that reached arbitration between 2021 and 2025: *bWAR from previous season, arbitration level, salary received for the next season, and whether the avoided an arbitration hearing or had it settled by the panel.* On average, the players from the dataset averaged 2.65 WAR, a salary of $2,016,145, and 30 of the 297 players went to s hearing. To determine the independent variable for my model, I first made sure that salary was "sticky" with respect to WAR by running a linear regression. The model showed a moderate correlation of 0.53, indicating that salary is indeed related to WAR and that salary/WAR could be used as my independent variable. Below is the scatterplot from the regression:



Results and Discussion

After determining the independent variable, I could now run the regression to determine if going to arbitration hearings leads to players getting more "bang for their buck". In the first model, the dependent variable is a binary indicator of whether the player went to a hearing. This regression tests whether players who proceed to hearings receive higher salary-per-WAR ratios than those who settle. Below are the results of the regression:

First Regression Results

Dependent Variable: Salery per WAR

Variable	Estimate	Std. Error	t value	p-value
(Intercept)	2,036,182.13	87,853.28	23.18	0.00
TYPEARB SETTLED	−198,369.64	276,423.88	−0.72	0.47

It is quite clear that in general, going to a hearing does not have a significant impact on the amount of money players are getting from arbitration relative to their WAR. In fact, the model indicates that players on average get less money when they go to an arbitration hearing versus when they agree to terms with their teams. However, with a p-value of 0.47, the difference is likely due to random variation and is not significant. To further investigate, I ran a second regression where I added in the players' arbitration level as a second independent variable to see if outcomes varied across different levels. Below are the results for the second regression:

Second Regression Results

Dependent Variable: Salery per WAR

Variable	Estimate	Std. Error	t value	p-value
(Intercept)	1,169,235.52	103,744.87	11.27	0.00
TYPEARB SETTLED	−188,279.44	303,058.16	−0.62	0.53
arb_level_cleanARBITRATION 2	990,451.19	161,138.86	6.15	0.00
arb_level_cleanARBITRATION 3	1,773,866.12	173,401.43	10.23	0.00
arb_level_cleanARBITRATION 4	3,680,462.19	348,322.17	10.57	0.00
TYPEARB SETTLED:arb_level_cleanARBITRATION 2	−385,117.55	591,853.64	−0.65	0.52
TYPEARB SETTLED:arb_level_cleanARBITRATION 3	535,385.87	496,270.81	1.08	0.28
TYPEARB SETTLED:arb_level_cleanARBITRATION 4	−1,784,705.95	1,191,061.85	−1.50	0.14

From the regression, it is apparent that there is a very strong correlation between arbitration level and salary-per-WAR, with each level showing higher salary-per-WAR ratios. This is to be expected as players salaries typically increase each year they go through the arbitration process, especially the players in my dataset as they all had positive WAR seasons. When looking at whether players gain more by going to hearings, the results are not statistically

significant. At arbitration levels one, two, and four it is shown that players tend to lose value by going to a hearing, however none of the p-values for these variables show any significance. It should be noted that the lowest p-value variable of the three, arbitration level four, is likely very skewed because there has been only one arbitration level four case since 2021 that has gone to a hearing, which is Gio Urshela losing his case with the Angels in 2023.

Arbitration level three is perhaps a slight outlier to the other levels as it shows that players at this level do get more value when they go to a settlement with a lower p-value than both arbitration level one and two. But, the p-value of 0.28 still is not enough to be statistically significant. However, with a larger dataset spanning more seasons, this result could approach significance and warrant further investigation.

Conclusion

Overall, my model did not show that there was any real significance in the value that players were getting in going to arbitration cases. The results indicate that there is no financial benefit to players going to arbitration hearing and if anything, players tend to get less value from taking their cases to a hearing. My model also doesn't include the non-financial drawbacks of going to a hearing such as strained relationships and non-guaranteed contracts. In my findings, the only players that should consider going to a case are arbitration three level players, as their service time and larger resumes may allow them to build a better case and get more value. In general, though, MLB players should be looking to get into good-faith negotiations with their teams and avoid arbitration cases to mitigate financial and inter-personal risks.

Works Cited

Major League Baseball. “Salary Arbitration.” MLB.com Glossary, www.mlb.com/glossary/transactions/salary-arbitration

Monhait, Jeff. “Baseball Arbitration: An ADR Success.” Harvard Journal of Sports & Entertainment Law, vol. 4, no. 1, 2013, pp. 107–143. journals.law.harvard.edu/jsel/wp-content/uploads/sites/78/2013/06/Monhait.pdf.

Vishwanathan Navneet. “File and Trial: Examining Valuation and Hearings in MLB Arbitration.” SABR Journal, sabr.org/journal/article/file-and-trial-examining-valuation-and-hearings-in-mlb-arbitration/

Wasserman, Tyler. “Surface Honors Capstone Paper.” Syracuse University Honors Program, 2019, surface.syr.edu/honors_capstone/99/.

Pollack, Brian What Gets Paid? Analyzing the Major League Baseball Contract Market” DukeSpace, Duke University, 2017, dukespace.lib.duke.edu/dspace/bitstream/handle/10161/14325/Pollack2017.pdf?sequence=.