

Salary vs WAR

From 2011-2021

Excluding 2020

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Nick, Carter, Jarrett, Koby

What is WAR?

- WAR stands for Wins Above Replacement, it is how many wins a team gains from a player in comparison to a replacement level player who would be on a minimal salary for minimal effort.
- Pitching WAR Metric (FIP)= $(\text{Homeruns} + (\text{BB} + \text{HBP}) + (\text{K} + \text{IFFB})) / \text{IP}$
- Hitter WAR Metric = $(\text{Batting Runs (RBI)} + \text{Fielding Runs Above Average} + \text{Positional Adjustment} + \text{League Adjustment} + \text{Base running runs}) + \text{Runs Added or Lost Due to Grounding into Double Plays} / \text{Runs Per Win}$

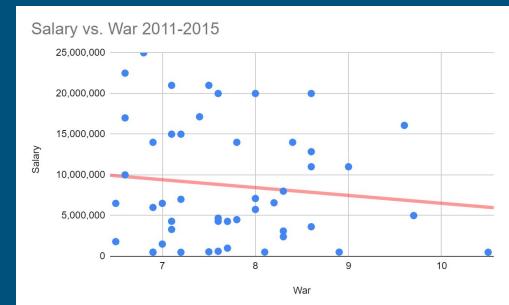
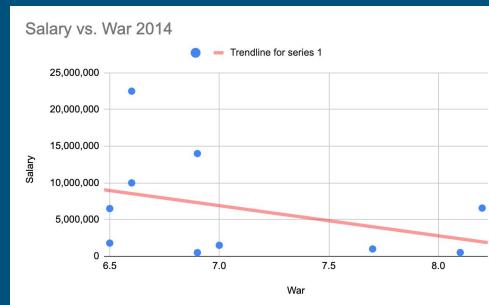
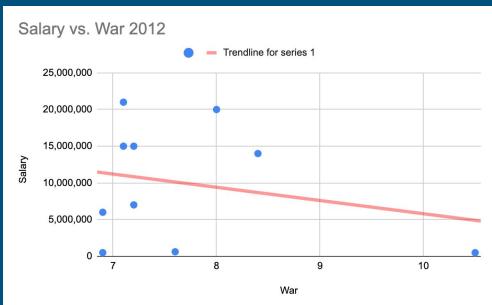
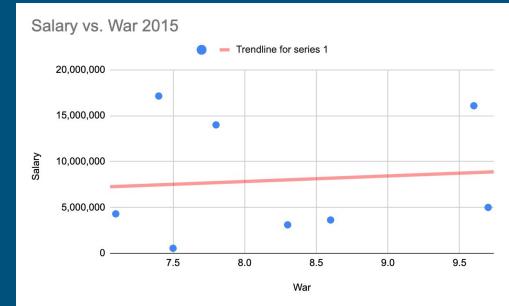
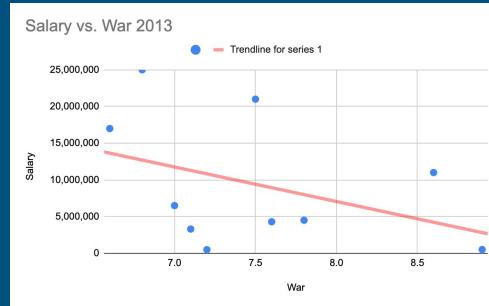
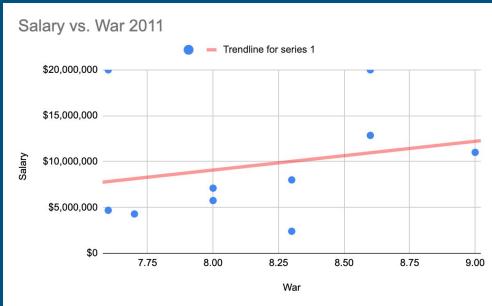
Salary Cap

- There is no salary cap in MLB
- This creates a clear advantage, teams who are better and more exciting attract more fans throughout the season giving the team back more money to spend on more players.
- Snowball Effect
- Yankees and Dodgers vs. Rays and Athletics

How And Where We Got our Data From?

- We took the top 10 WAR values from the past 10 seasons excluding 2020 because of a shortened season.
- We compared these values to the salaries of the players who hold these WAR values.
- We then broke that up into 2011-2015 and 2016-2019, 2021

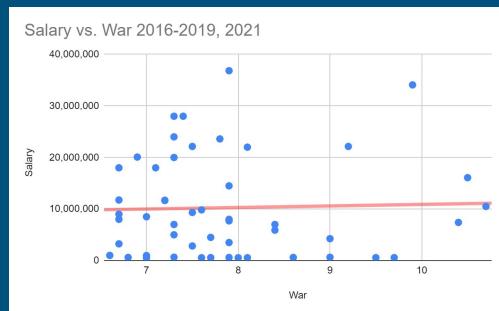
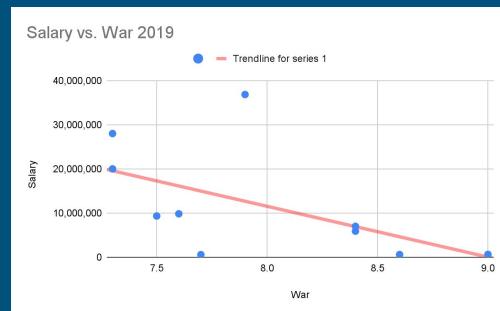
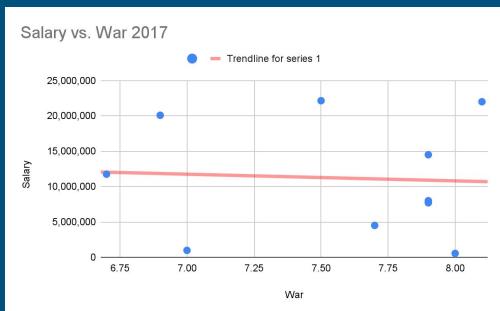
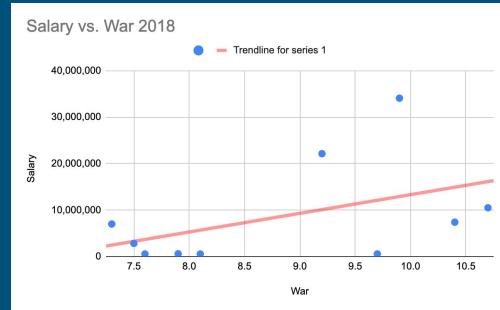
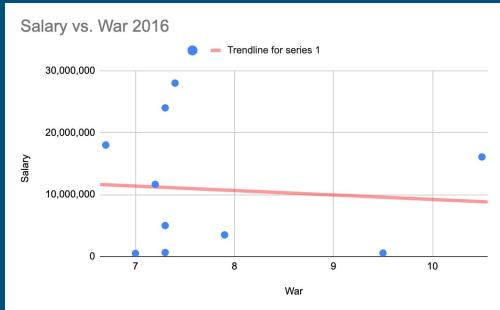
Salary vs WAR 2011-15



Findings Salary vs WAR 2011-2015

- There is a slight, negative correlation between salary and WAR from 2011-2015.
- The R-value for these years is -0.12.
- There were positive correlations in 2011 and 2015.
- There were negative correlations in 2012, 2013, and 2014.

Salary vs WAR 2016-19, 2021

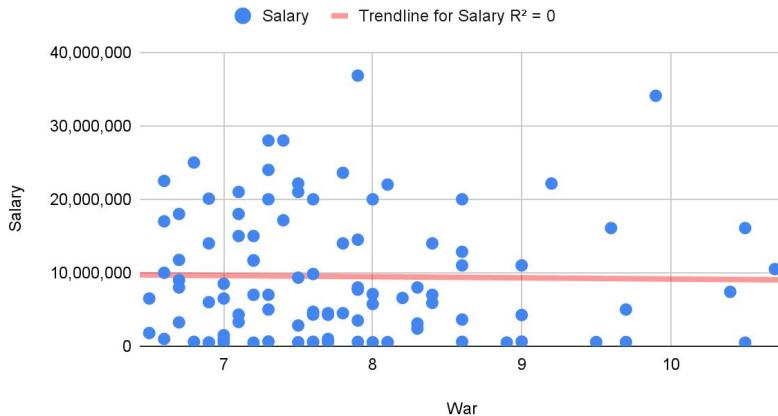


Findings Salary vs WAR 2016-19, 2021

- There is a very slight, positive correlation overall between salary and WAR over the 2016-2019, and 2021 seasons.
- The R-value over these 5 years is 0.03.
- 2016, 2017, and 2019 have small, negative correlations between salary and WAR.
- 2018, and 2021 have small, positive correlations between salary and WAR.

Salary vs WAR 2011-2019, 2021

Salary vs. War 2011-2021 (no 2020)



R - Value (correlation coefficient)



Findings Salary vs WAR 2011-2019, 2021

- There is no correlation between WAR and salary
- The R-value over these 10 years is 0
- The R-values per season over the course of the 10 years fluctuate from negative, slightly negative, positive and slightly positive correlations between salary and WAR.

Overall Conclusion on Salary vs WAR

- Based on the evidence, especially the evidence over the course of the 10 years there is no correlation between salary and WAR.
 - The R-value is 0.
 - The R-values per season vary per year from negatives to positives.
 - Players on arbitration with high WAR.
- However, over the past 5 years there has been a very slight positive correlation between salary and WAR.
 - % of the years had negative correlations.

Sources

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