



# Salary vs WAR

From 2011-2021

Excluding 2020



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)= (Homeruns) + (BB + HBP ) + (K + IFFB))) / IP
- Hitter WAR Metric = (Batting Runs (RBI) + Fielding Runs Above Average + Positional Adjustment + League Adjustment + Base running runs) + Runs Added or Lost Due to Grounding into Double Plays / 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

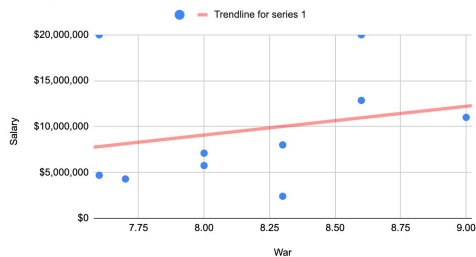
# How And Where We Got our Data From?

---

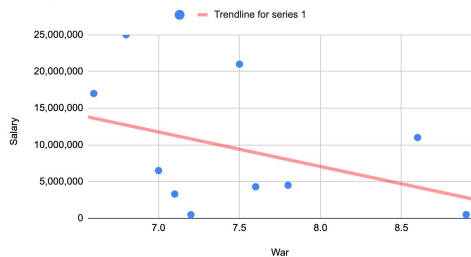
- We took the top 10 WAR values from the past 10 seasons excluding 2020 because of a shortened season.
- We compared these values to the salaries of the players who hold these WAR values.
- We then broke that up into 2011-2015 and 2016-2019, 2021

# Salary vs WAR 2011-15

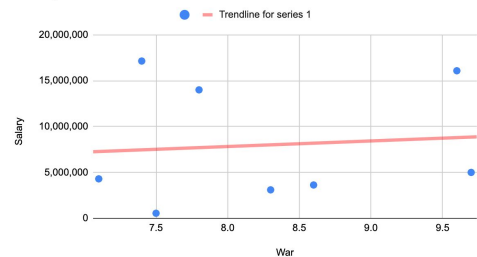
Salary vs. War 2011



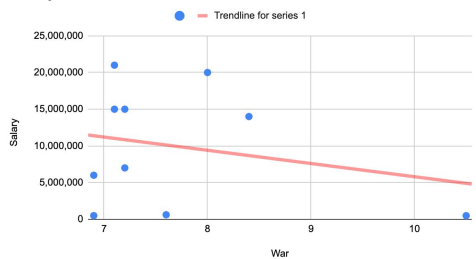
Salary vs. War 2013



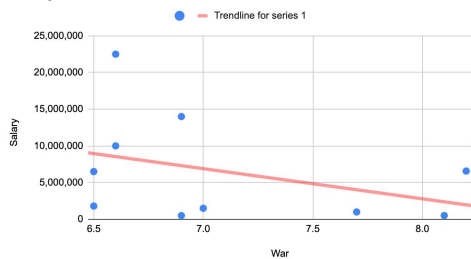
Salary vs. War 2015



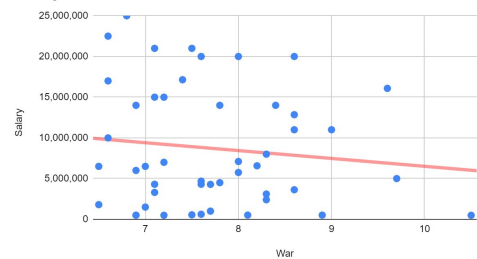
Salary vs. War 2012



Salary vs. War 2014



Salary vs. War 2011-2015



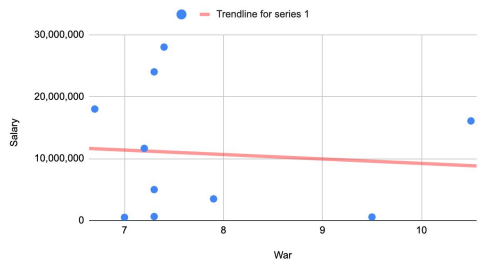
# Findings Salary vs WAR 2011-2015

---

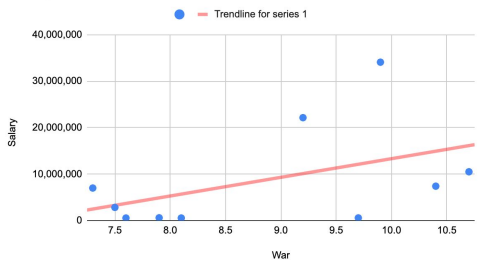
- There is a slight, negative correlation between salary and WAR from 2011-2015.
- The R-value for these years is -0.12.
- There were positive correlations in 2011 and 2015.
- There were negative correlations in 2012, 2013, and 2014.

# Salary vs WAR 2016-19, 2021

Salary vs. War 2016



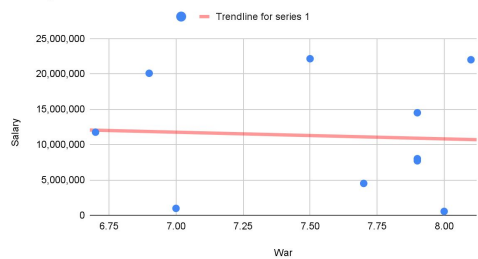
Salary vs. War 2018



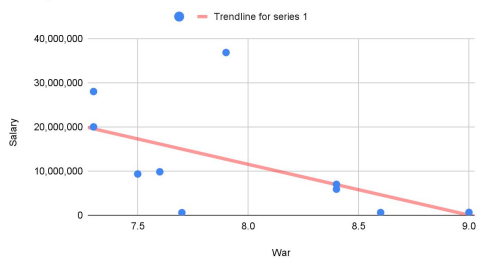
Salary vs. War 2021



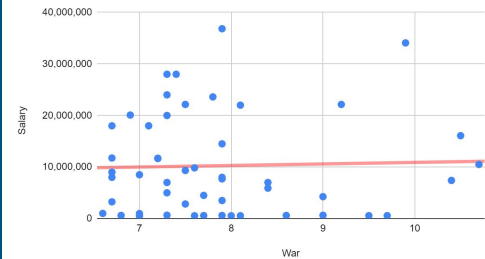
Salary vs. War 2017



Salary vs. War 2019



Salary vs. War 2016-2019, 2021



# Findings Salary vs WAR 2016-19, 2021

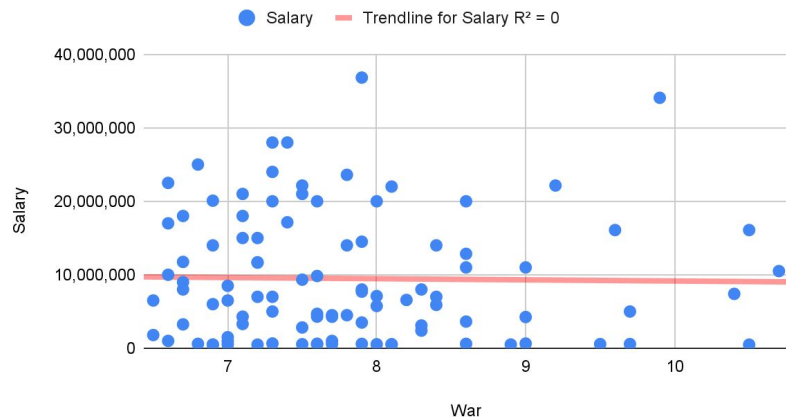
---

- 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.

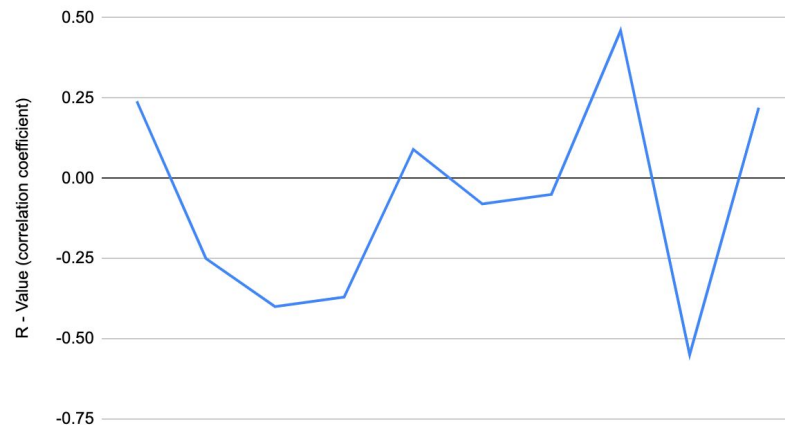


# Salary vs WAR 2011-2019, 2021

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.
  - $\frac{3}{5}$  of the years had negative correlations.

# Sources

---

Admin. (2021, August 30). *What is war in baseball - what does the formula look like?: TSR*. What is WAR in Baseball - What Does the Formula Look Like? | TSR. Retrieved October 19, 2021, from <https://thestadiumreviews.com/blogs/info/what-is-war-in-baseball/>.

Eassom, R. (2018, June 20). *The modern myths of baseball – the cost of a win*. Bat Flips and Nerds. Retrieved October 19, 2021, from <https://batflipsandnerds.com/2018/06/20/the-modern-myths-of-baseball-the-cost-of-a-win/>.

*MLB needs to consider a salary cap after 2021*. Belly Up Sports. (2021, July 30). Retrieved October 19, 2021, from <https://bellyupsports.com/2021/07/mlb-needs-to-consider-a-salary-cap-after-2021/#:~:text=Right%20now%2C%20there%20is%20no%20salary%20cap%20in,during%20the%20deals%20being%20made%20in%20trade%20deadline>.

*MLB stats, scores, History, & Records*. Baseball. (n.d.). Retrieved October 19, 2021, from <https://www.baseball-reference.com/>.