



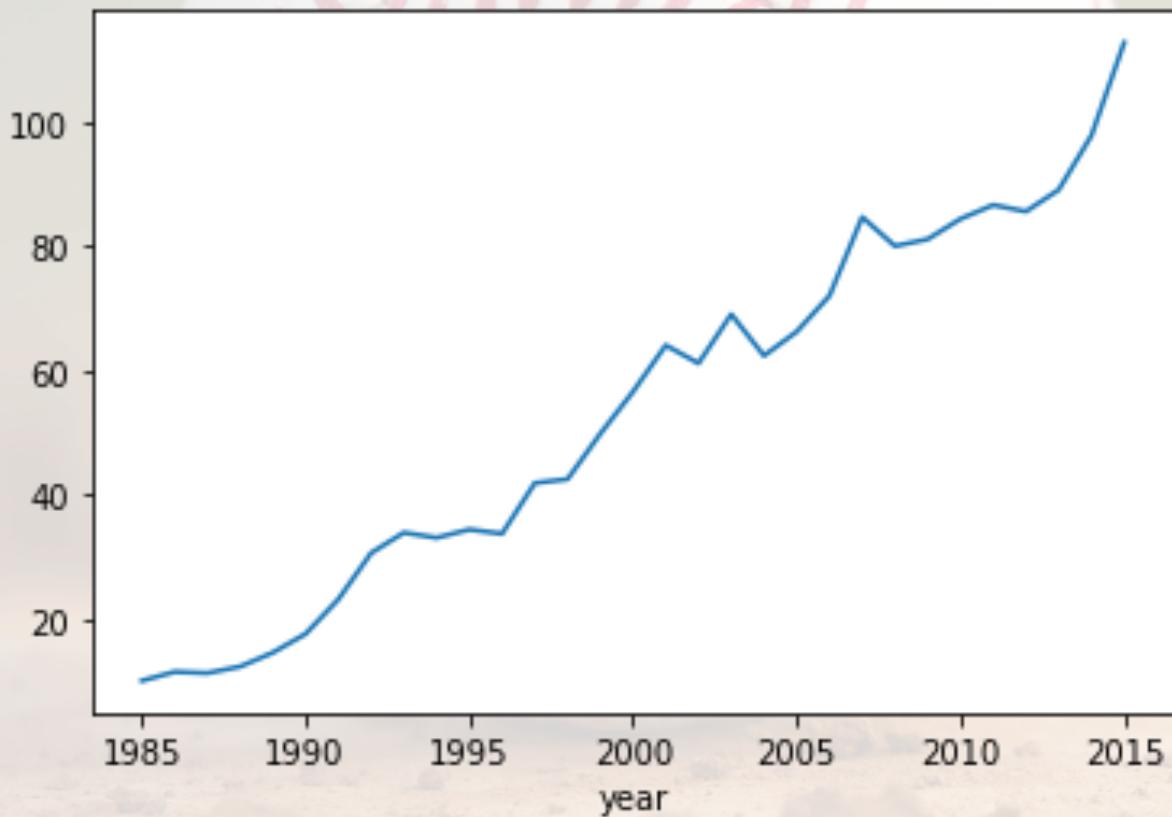
# Building a Better Baseball Team

# The Problem

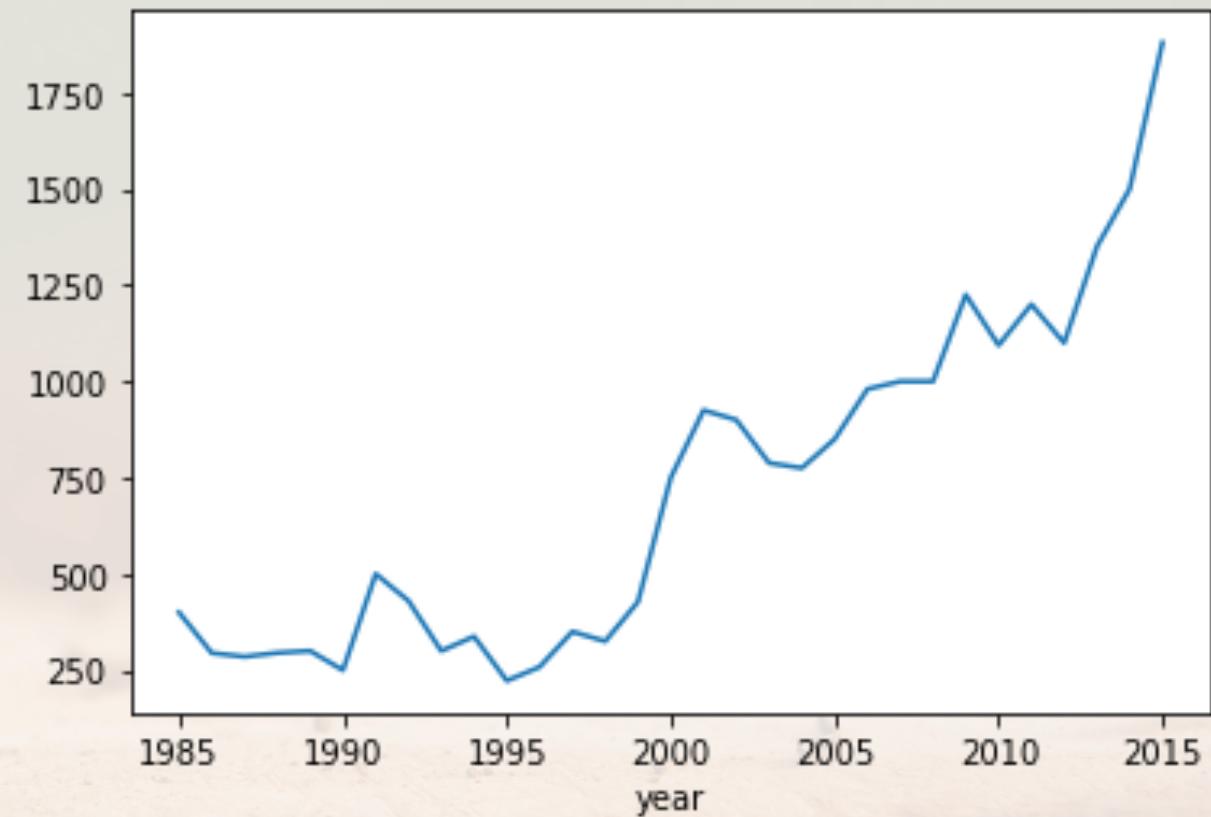
How does an MLB team owner minimize the amount of money spent on player salaries while still winning at least 81 games?

# Growth in Salaries over Time

Median Log Team Salaries (in millions)  
1985-2015

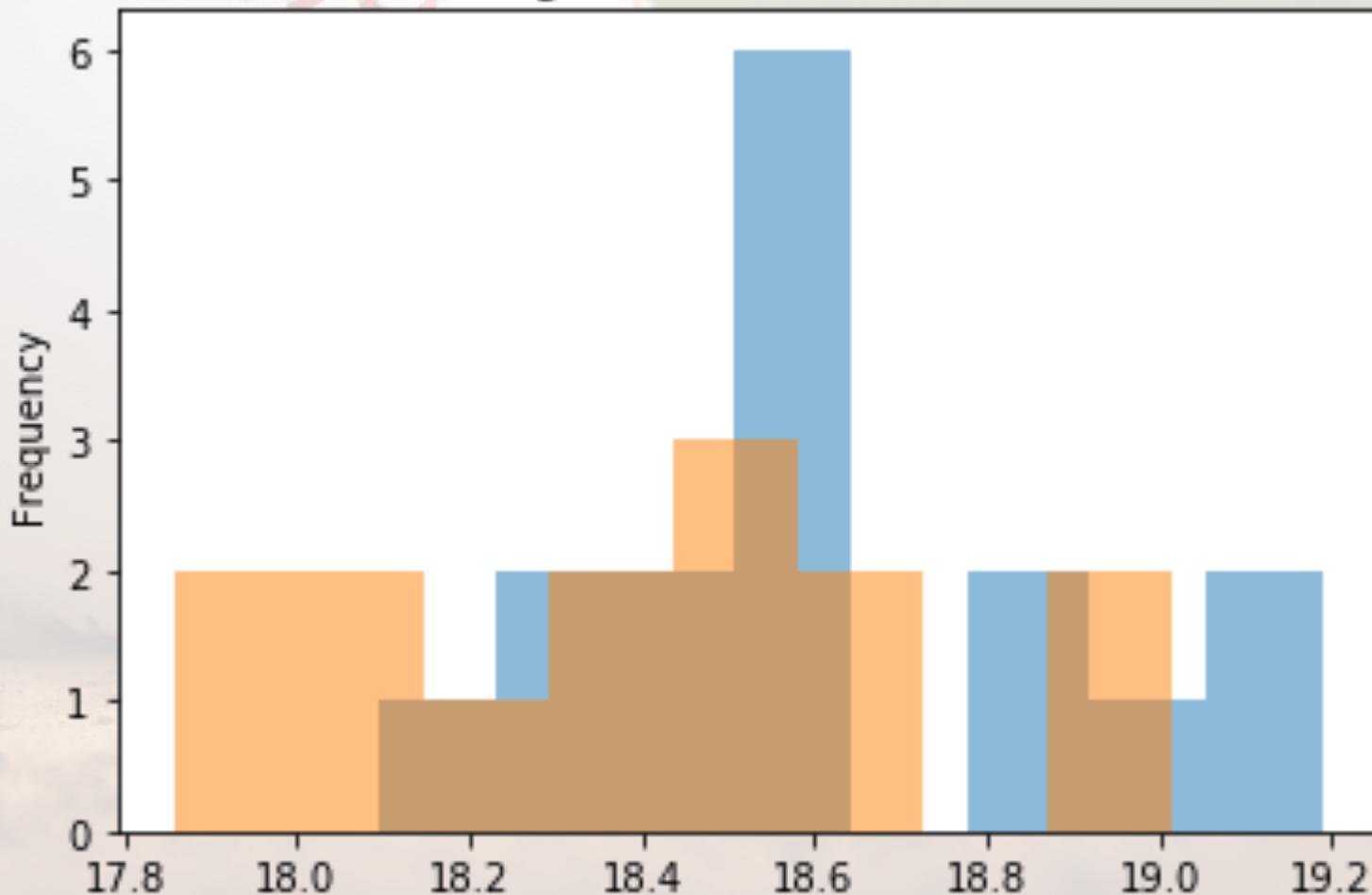


Median Individual Salaries (in thousands)  
1985-2015



# Distribution of Total Team Salaries in 2015

Log team salaries 2015



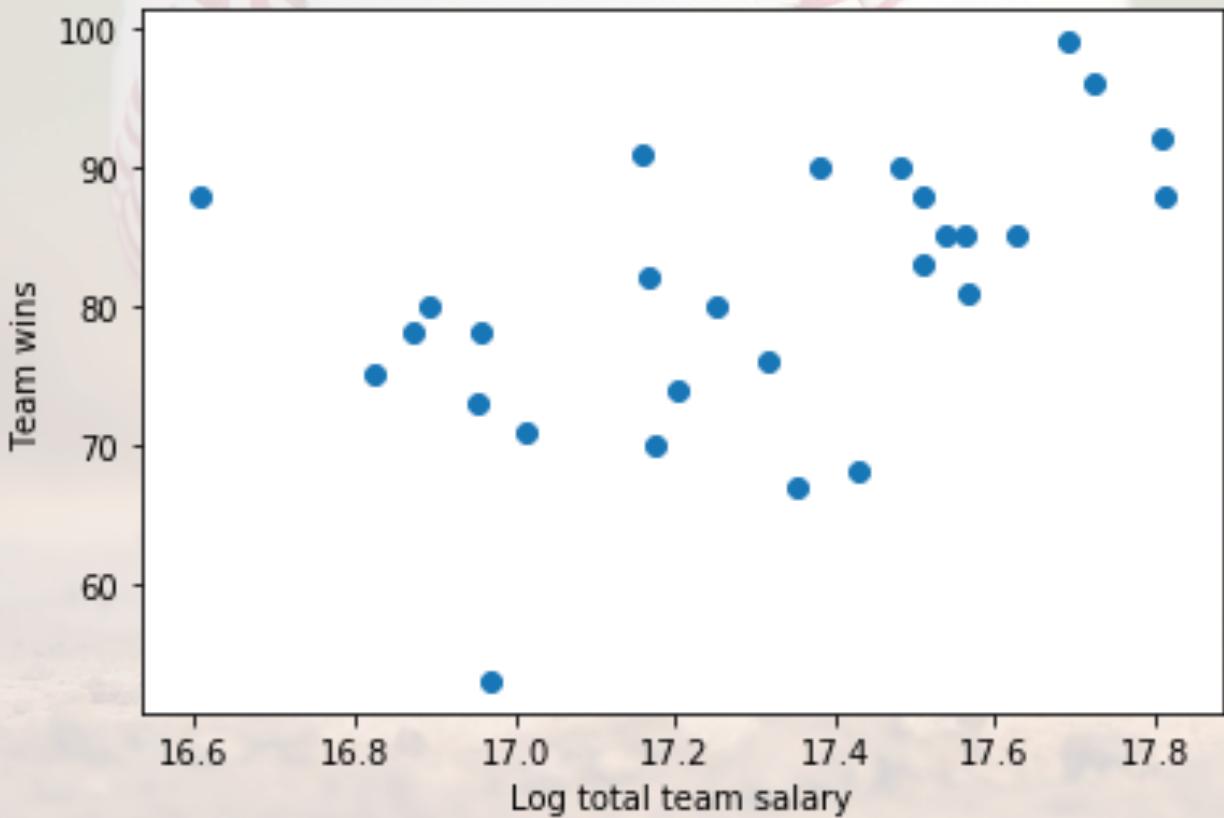
# Impact of Salary on Number of Wins

How does relative salary impact wins?  
1985-2015

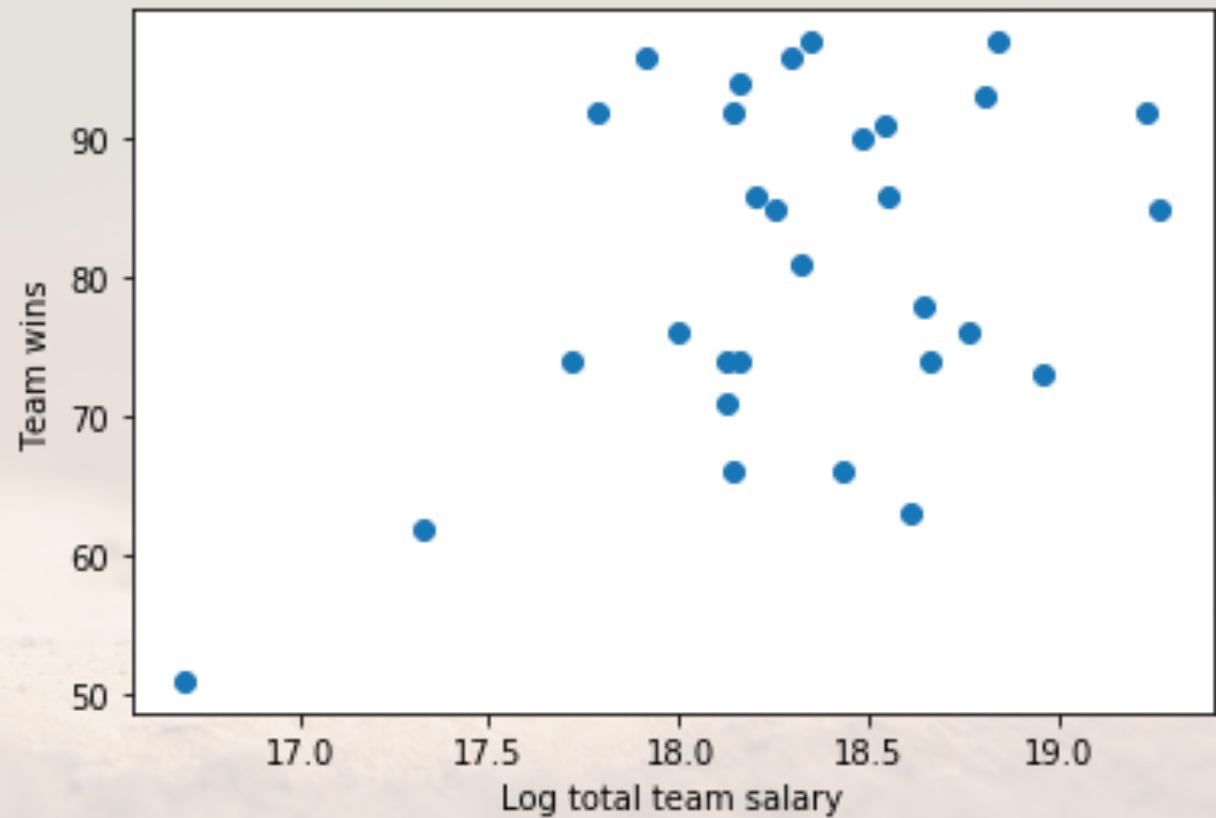


# Impact of Salary on Number of Wins

How does salary impact wins?  
1996 season



How does salary impact wins?  
2013 season



# What stats are important for winning?

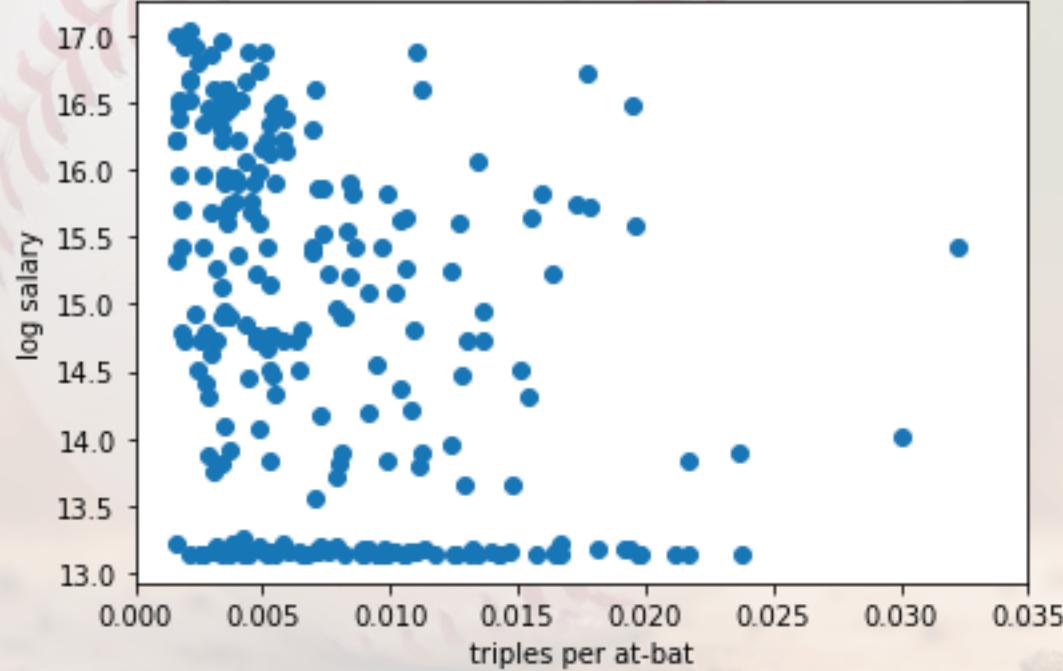
- Scoring runs, and preventing the other team from scoring runs, are the most important metrics for winning games.
- We will look at what batting stats are important for scoring runs at the individual player level.

# What stats predict scoring runs?

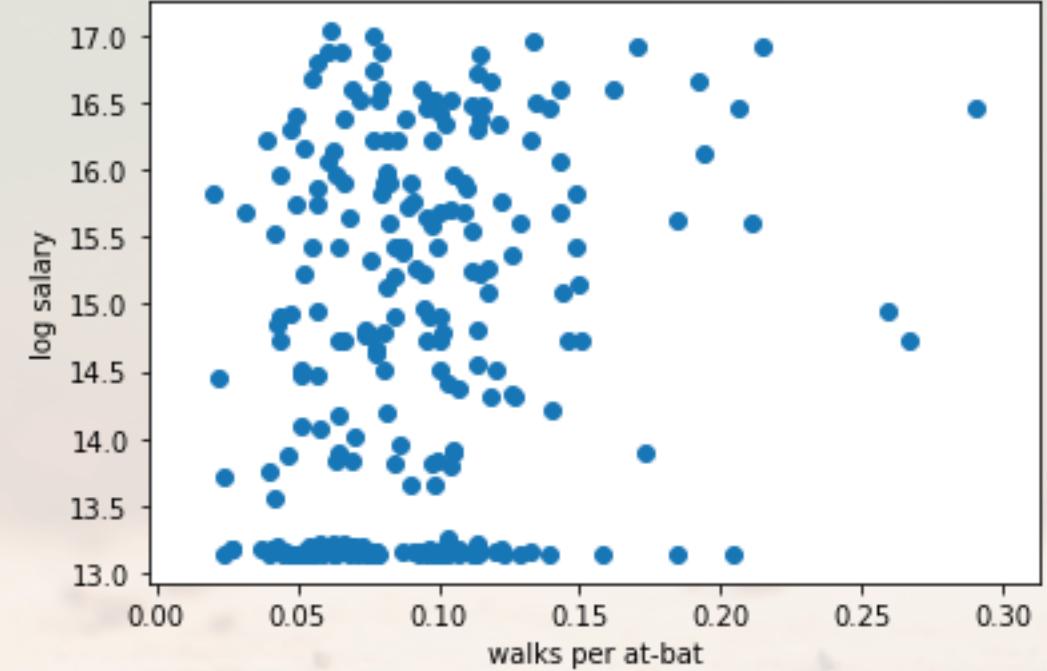
- Out of batting average, on-base percentage, and slugging average, on-base percentage is most predictive of scoring runs. The most important metric for scoring runs is the ability to get simply on base.
- A batter can get on base by getting a hit, a walk, or getting hit by a pitch. We find that homeruns, triples, and walks are most predictive of scoring runs.

# Player Stats and Salary

Salary and Triples  
2015 season



Salary and Walks  
2015 season



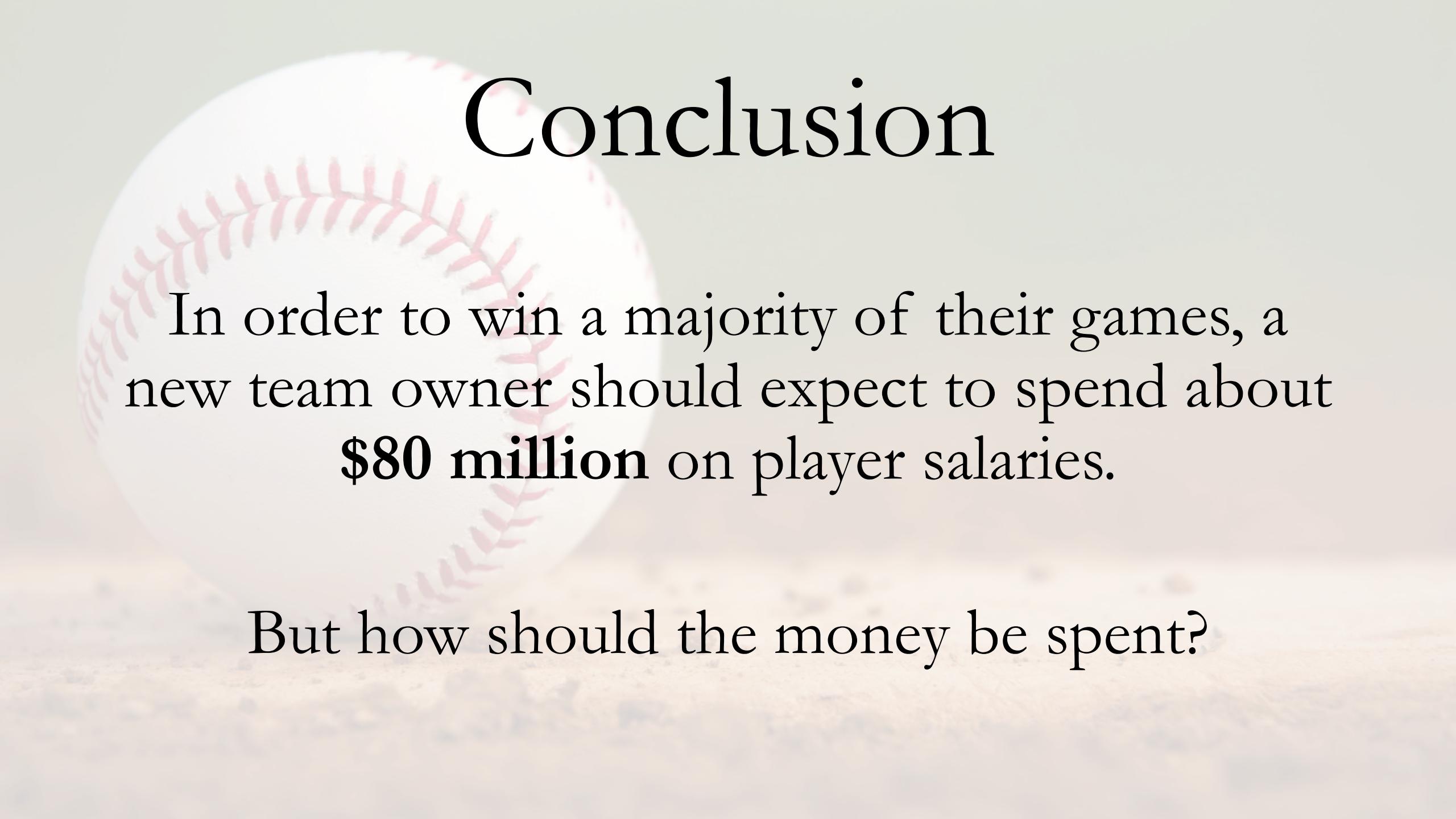
Triples and walks are the best indicators of undervalued players.

# Player Age and Salary



Younger but promising players can be hired for lower salaries.

# Conclusion

A baseball is positioned in the upper left corner, showing its white surface and red stitching. The background is a soft-focus photograph of a baseball field with a dirt infield and a grassy outfield under a clear sky.

In order to win a majority of their games, a new team owner should expect to spend about **\$80 million** on player salaries.

But how should the money be spent?

# Conclusion

- Focus on hiring players who know how to get on base, reflected in the ability to hit singles and triples, and draw walks.
- Look for a few inexpensive players who are adept at hitting triples.
- Resist the urge to hire big homerun hitters because, while homeruns are a sure way to score runs, homeruns are expensive. Homerun hitters are flashier and may make a team more exciting to watch, but they also demand higher salaries.
- Finally, hire younger but promising players, because older players tend to be paid more money.