Major League Baseball Salaries

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In this study, models of baseball team salaries be drawn from 2015 data. The study of baseball salaries is supposed to correlate with the team’s potential performance over a season. The data was collected from ESPN and USA Today. The distributions modeled will include Empirical, Nelson Aalen, Kaplan-Meier, and Lognormal for individual and group data sets. Log likelihood, Method of Moment, Percentile Matching at 30th and 70th, Mean, Variance, Standard Deviation, Coefficient of Variation, and data sets will be calculated and modeled in excel. There are thirty teams in the Major League Baseball, so the “n” will be 30 for the Individual Emp Dist tab in excel. For the group data the teams are broken up into seven salary ranges, from $50 million to $225 million with an interval of $25 million, this is in the Group Emp Dist tab.

The salary Empirical distribution is 3.33% for individual data, with a mean of $122,099,884, a standard deviation of $39,256,153, and a coefficient of variation 0.32151. The salary Empirical distribution for group salary is shown in the Group Emp Dist tab, with a group mean of $119,166,667, a standard deviation of $39,228,674, and a coefficient of variation 0.32919.

Group Data





Individual data





The rest of the calculations can be found in excel. All labels used are the same as class work and follow similar orders and calculations. The Log likelihood produced the same mean as seen above. The percentile matching results of 30th percentile is $98,556,475 and the 70th percentile is $131,044,488. After setting up a system of equations to solve for µ and σ we find µ=18.5486 and σ=35.6704. The Method of Moment results show µ=40.04712 and σ=0.31363.

The salaries of baseball teams are often perceived to correlate with team wins. However, if you look at the total salary for a team and compare it to their wins there isn’t a correlation. The team with the highest win rate is very close to our distribution mean. The average team win rate is 80.97 and the team with the highest amount of wins was 100. The top 5 salaries have a team win average of 83 and the bottom 5 salaries have an average of 76.80. The amount of money a team spends on salaries can influence the amount of team wins but ultimately money doesn’t equal wins.