

How Do MLB Players Get Paid More?

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Hypothesis

MLB players who score more runs and homeruns have a higher salary



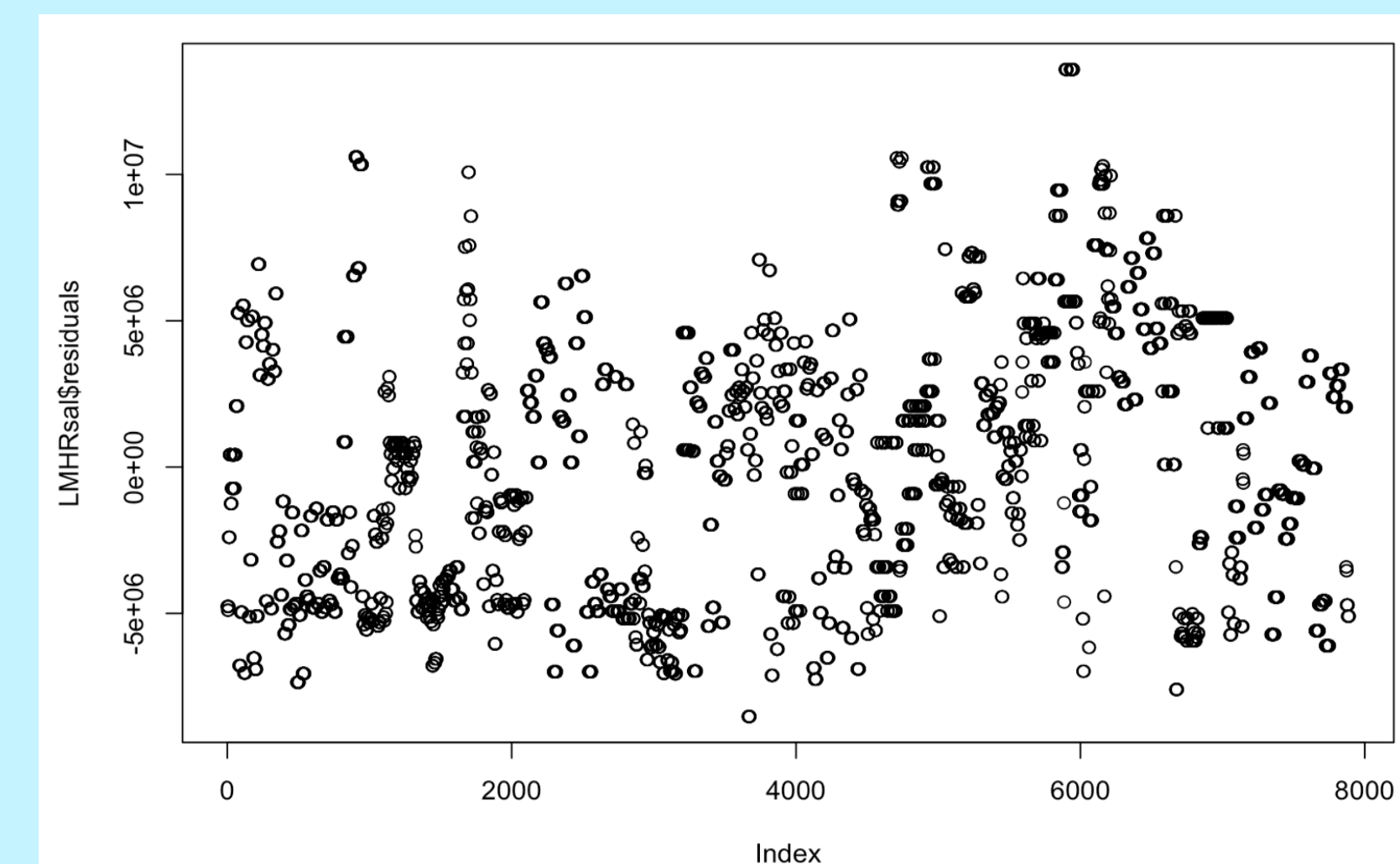
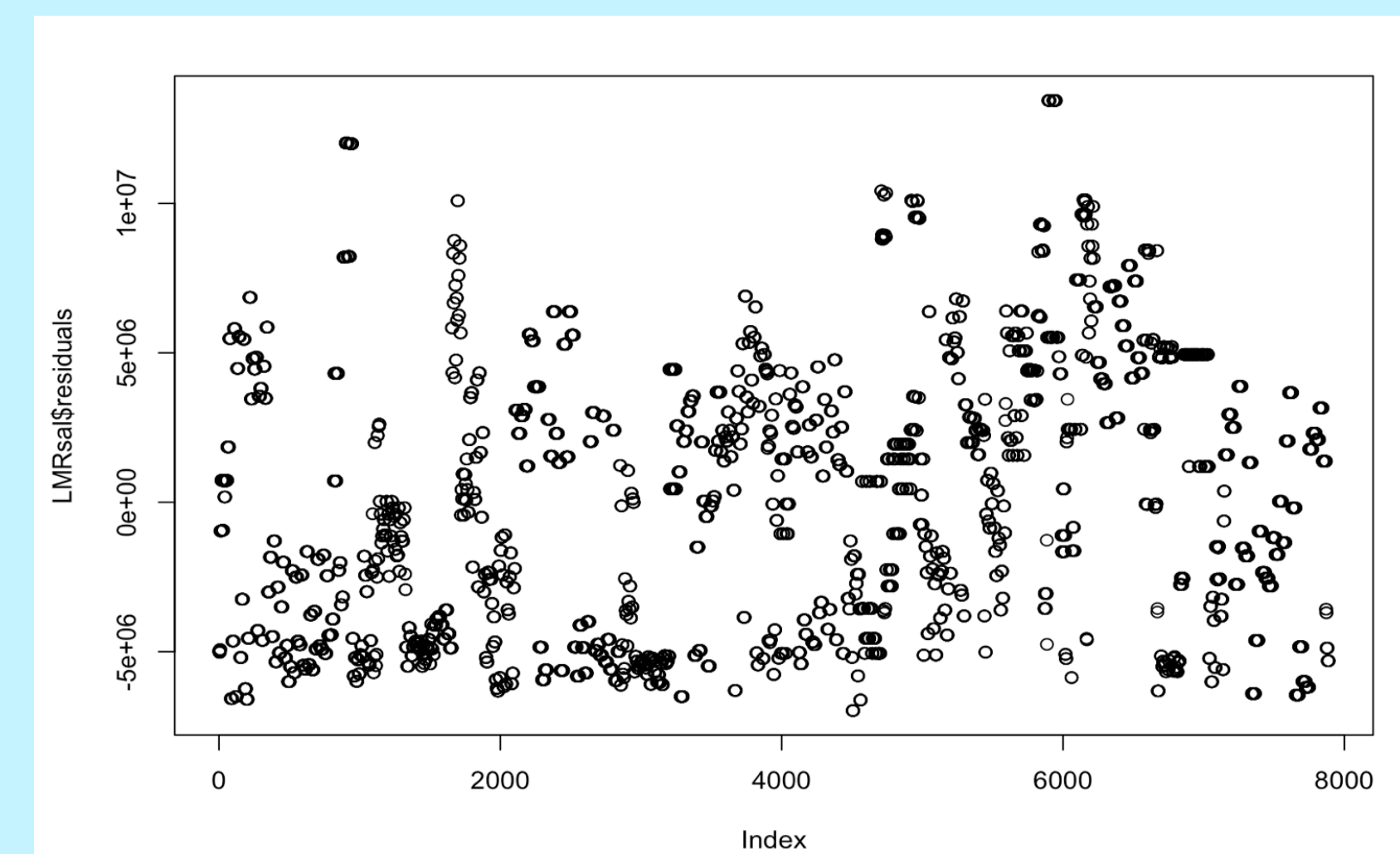
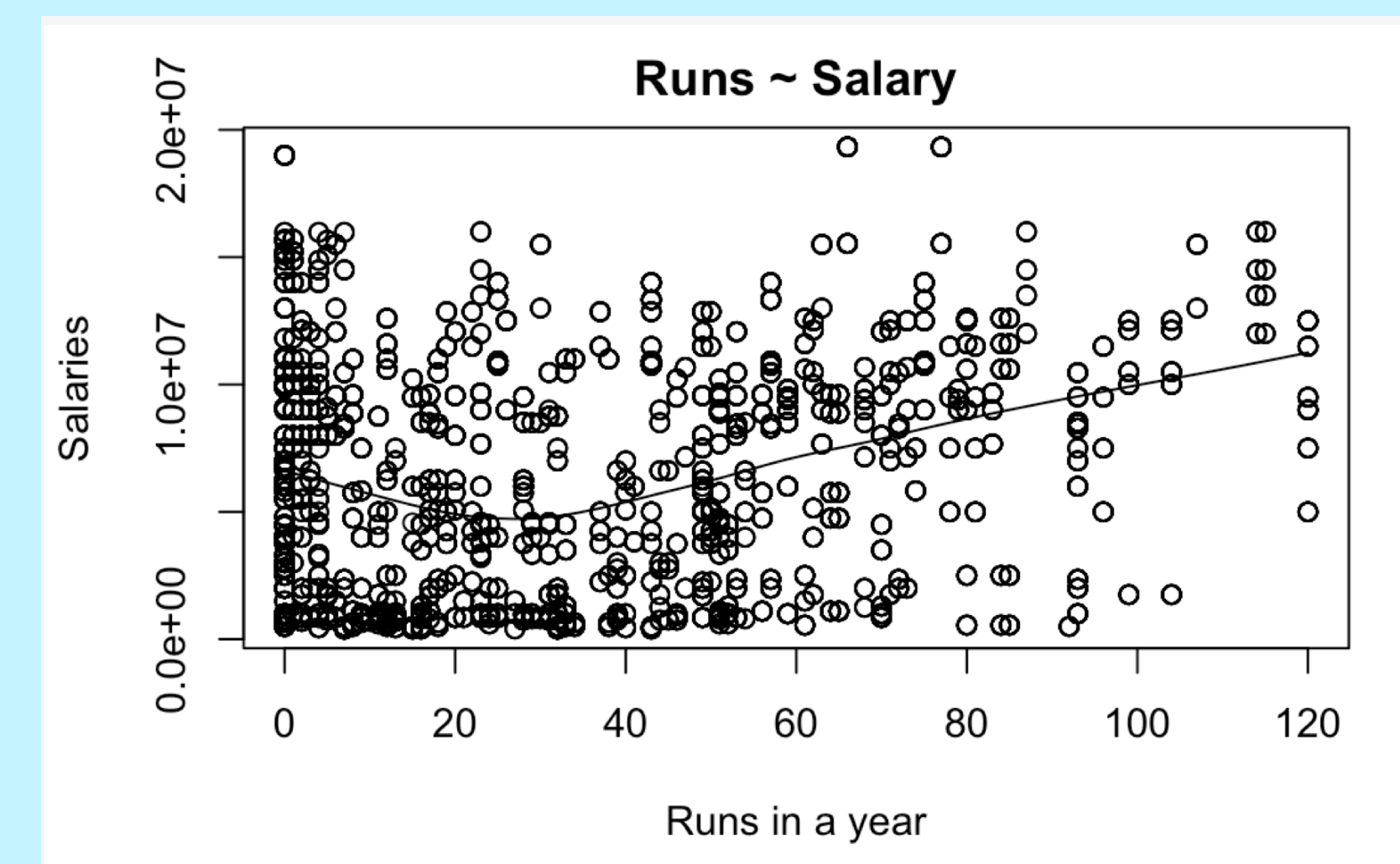
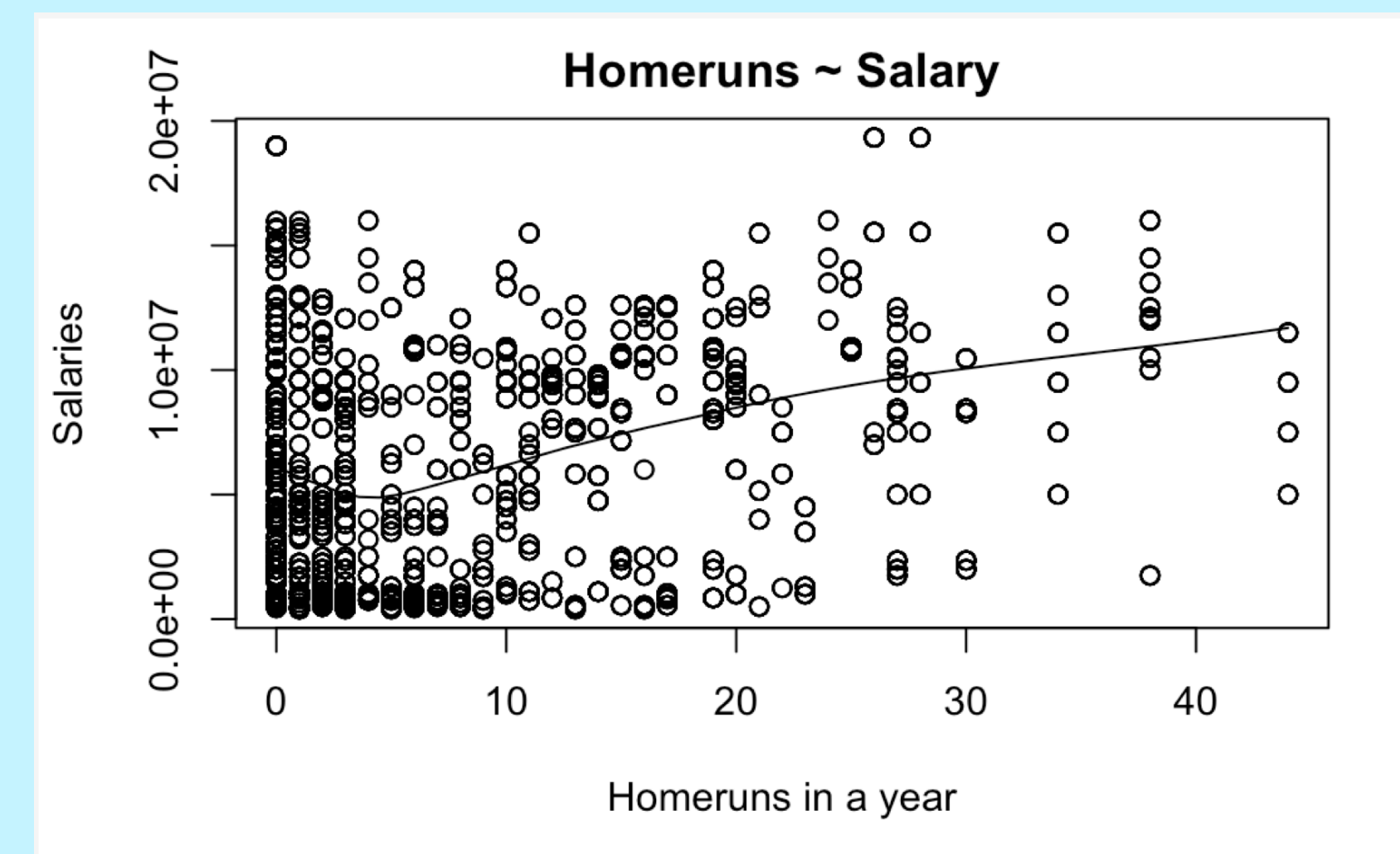
Introduction

- To investigate whether or not homeruns and runs affect a player's salary, data was obtained from Kaggle including the complete history of major league baseball stats from 1871 to 2015
- For our analysis we looked at these different statistics from the dataset:
 - ❖ Salary
 - ❖ Home Runs
 - ❖ Runs
 - ❖ Years
 - ❖ PlayerID

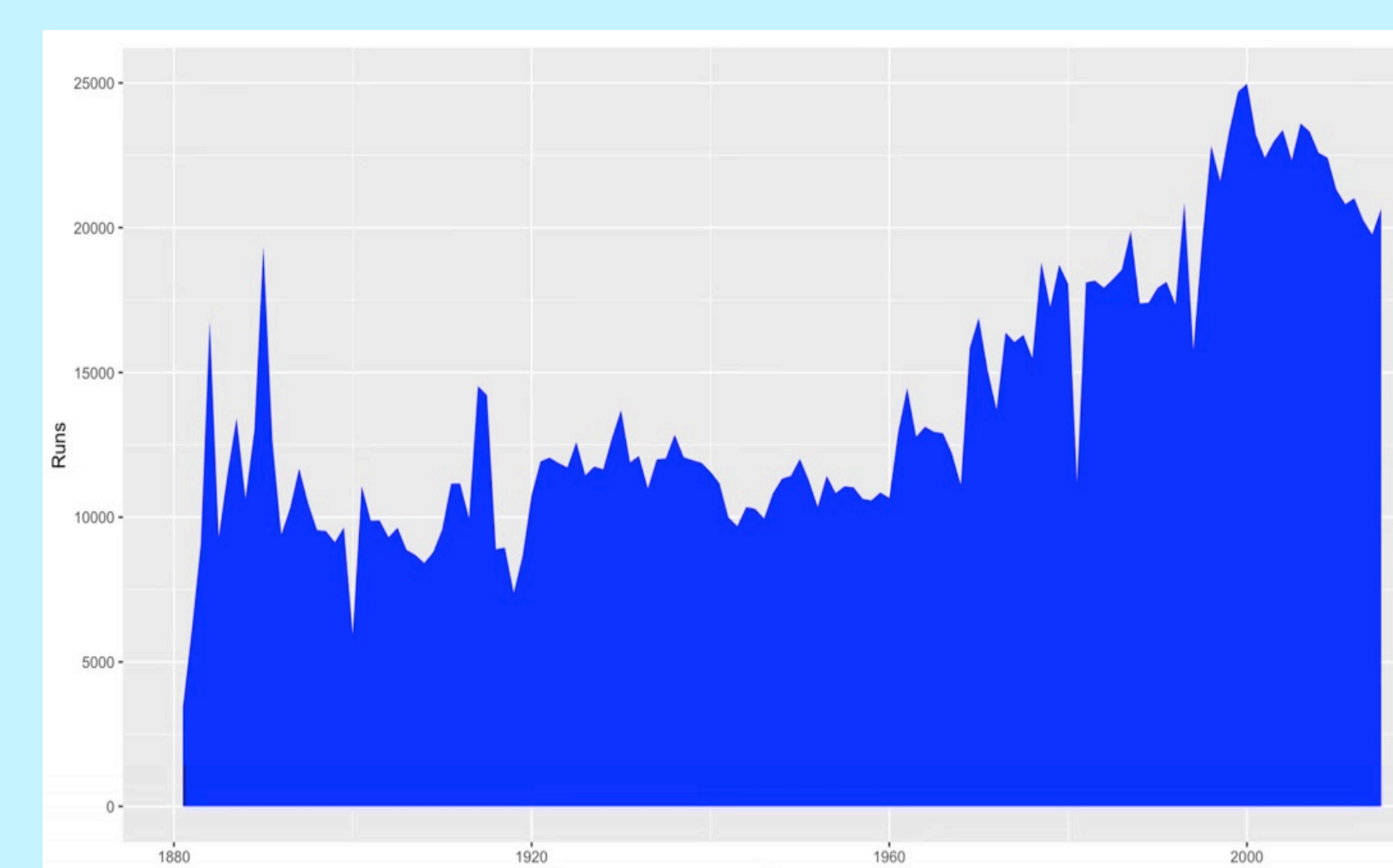
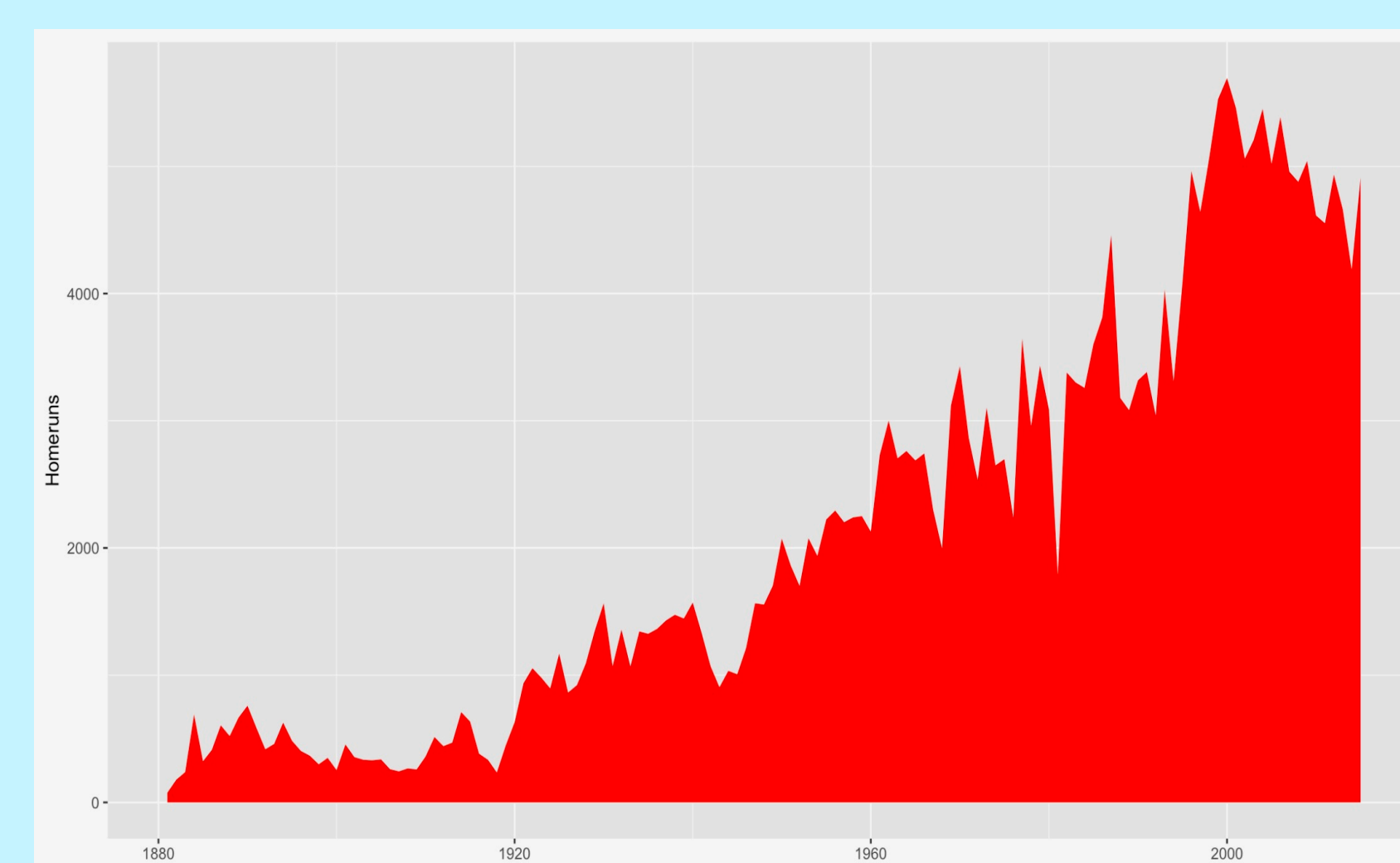
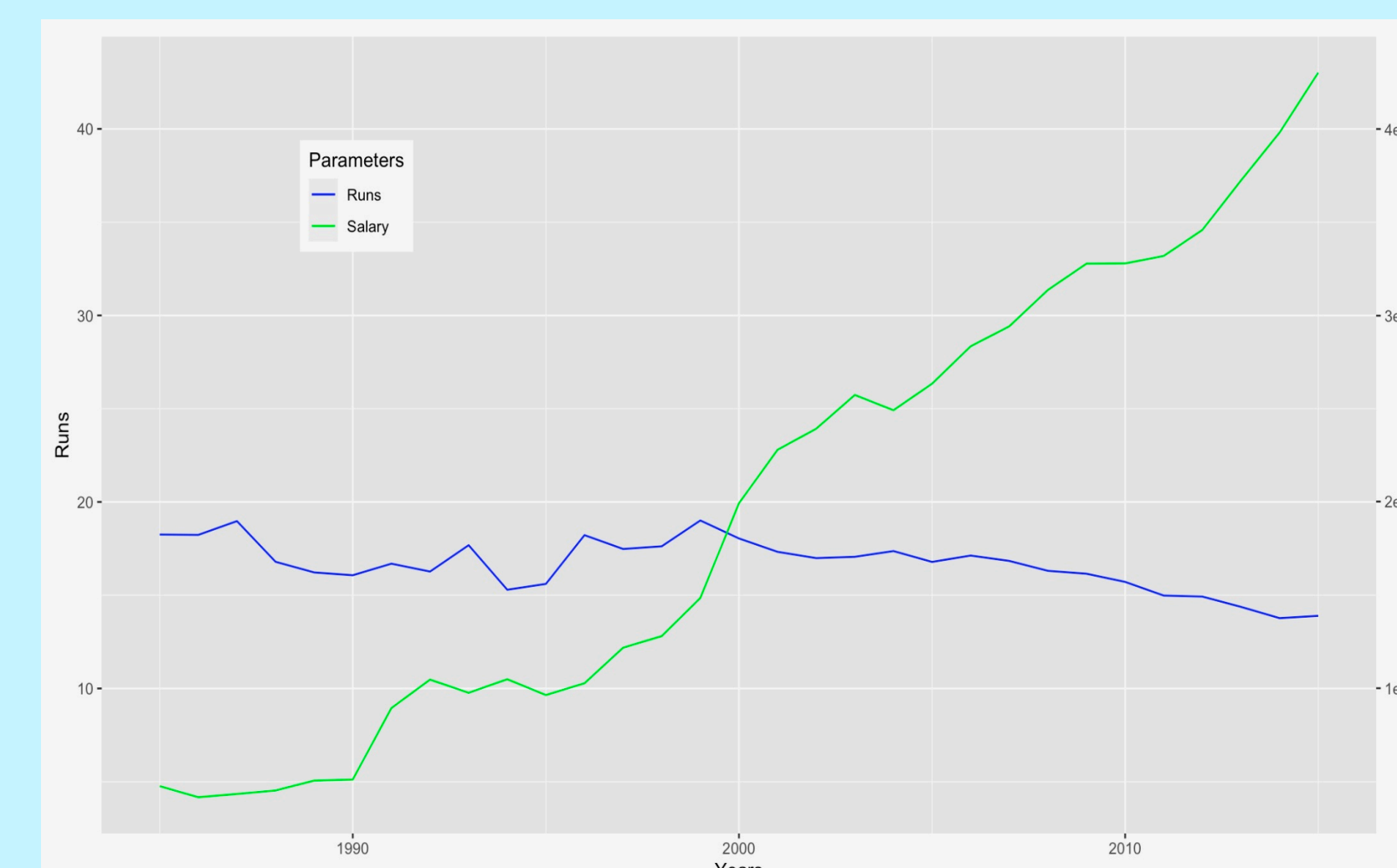
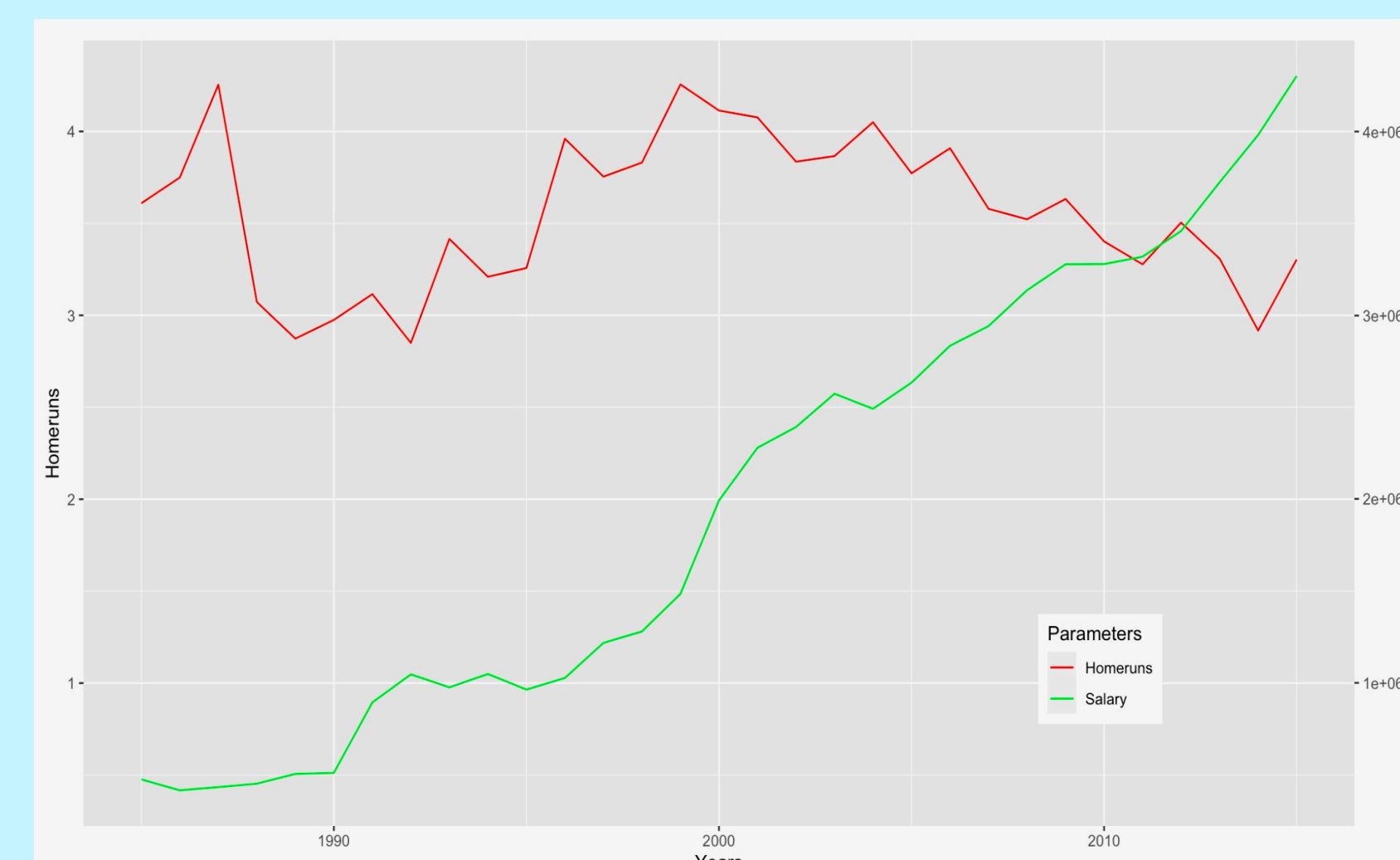


Methodology

Used Linear regression model to analyze the relationship between salary and homeruns as well as salary and runs



Used time series model to show the trends between average salary, average homeruns, and average runs between 1985 and 2015



Conclusion

- From the linear regression models we can see that there is a positive relationship between runs and salary as well as homeruns and salary for the players in the data set.
 - The p-values for both these tests were significant as they were both below .05
 - This aligned well with our hypothesis that more homeruns and runs lead to a higher salary
- The time series model tells a different story however
 - The Salary in both visuals steadily increases since 1985, yet we do not observe a similar trend with runs and home runs.
 - If runs and homeruns were strong indicators of increases in salary we would expect the league average of homeruns and runs to increase with the salary during the 30 year period
- In conclusion there is not enough statistical evidence which suggests homeruns and runs are the most important variable when determining a player's salary
 - Perhaps if we had included more player stats into our model we could create a better predictor for salary but runs and homeruns alone are not enough

Acknowledgements

<https://www.kaggle.com/seanlahman/the-history-of-baseball> - Sean Lahman