

NHL Analysis



About the NHL and our project

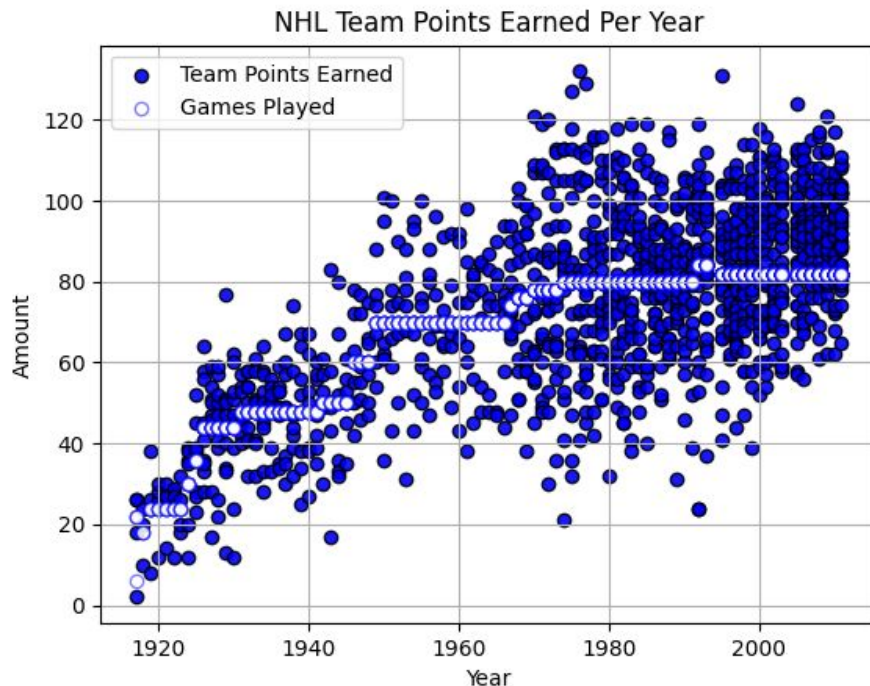
- Hockey is one of the most popular sports in North America. The National Hockey League (NHL) was founded in 1917 and has experienced significant growth and transformation over the years.
- As a professional league develops, teams improve every facet of their organizations, from arenas and fan engagement to coaching, player acquisition and development.
- There is also an improvement over time in the players themselves. Professional athletes in general have become bigger, faster, stronger and more specialized as compared to their predecessors.
- We were interested in visualizing NHL data to document the league's progression over the last 100 years.

About the dataset

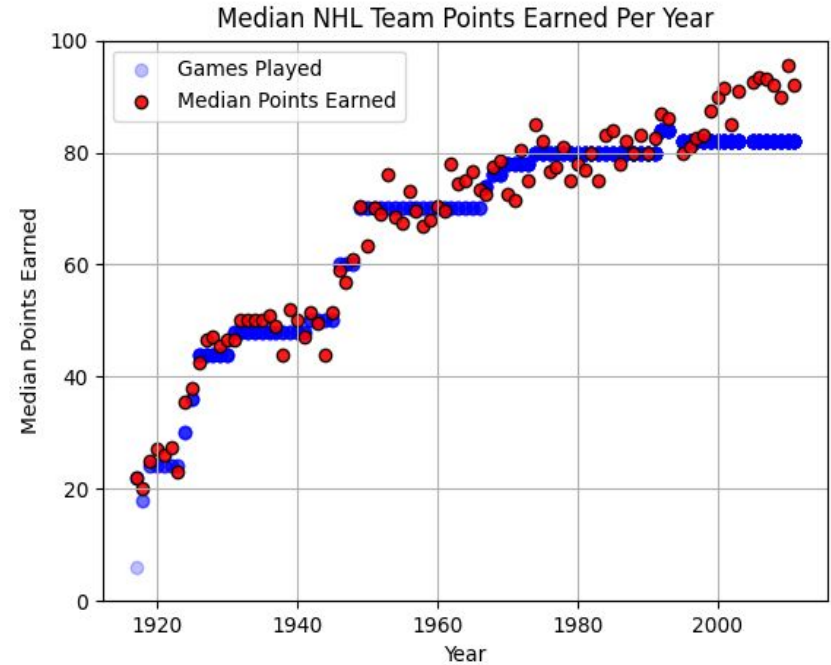
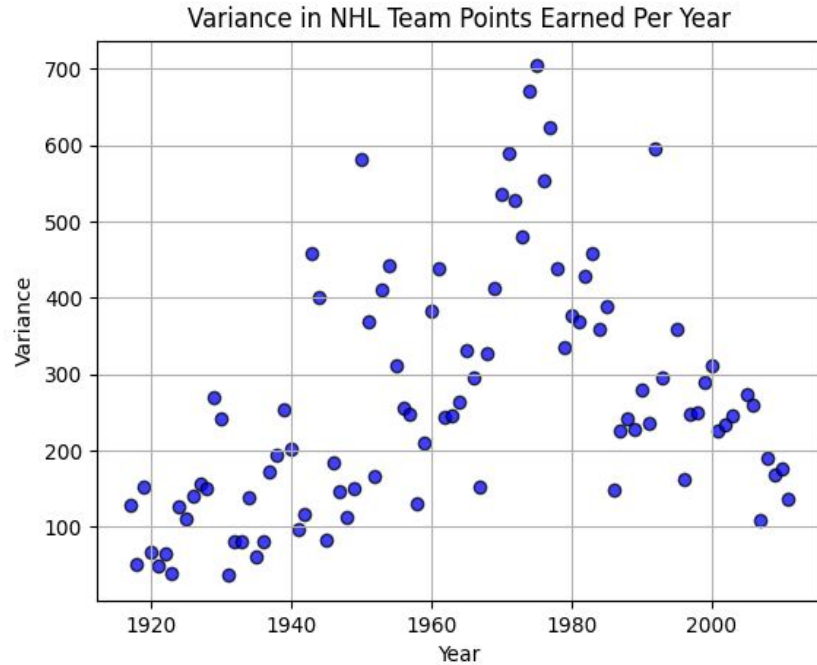
- We utilized a set of files that track a variety of NHL statistics from 1917 to present. Datasets include:
 - Team performance
 - Player scoring
 - NHL Draft results
 - League end-of-season awards
 - NHL attendance data
- How have these metrics fluctuated over time and what does that say about the evolution of the league? How can these changes be explained?

Team Performance

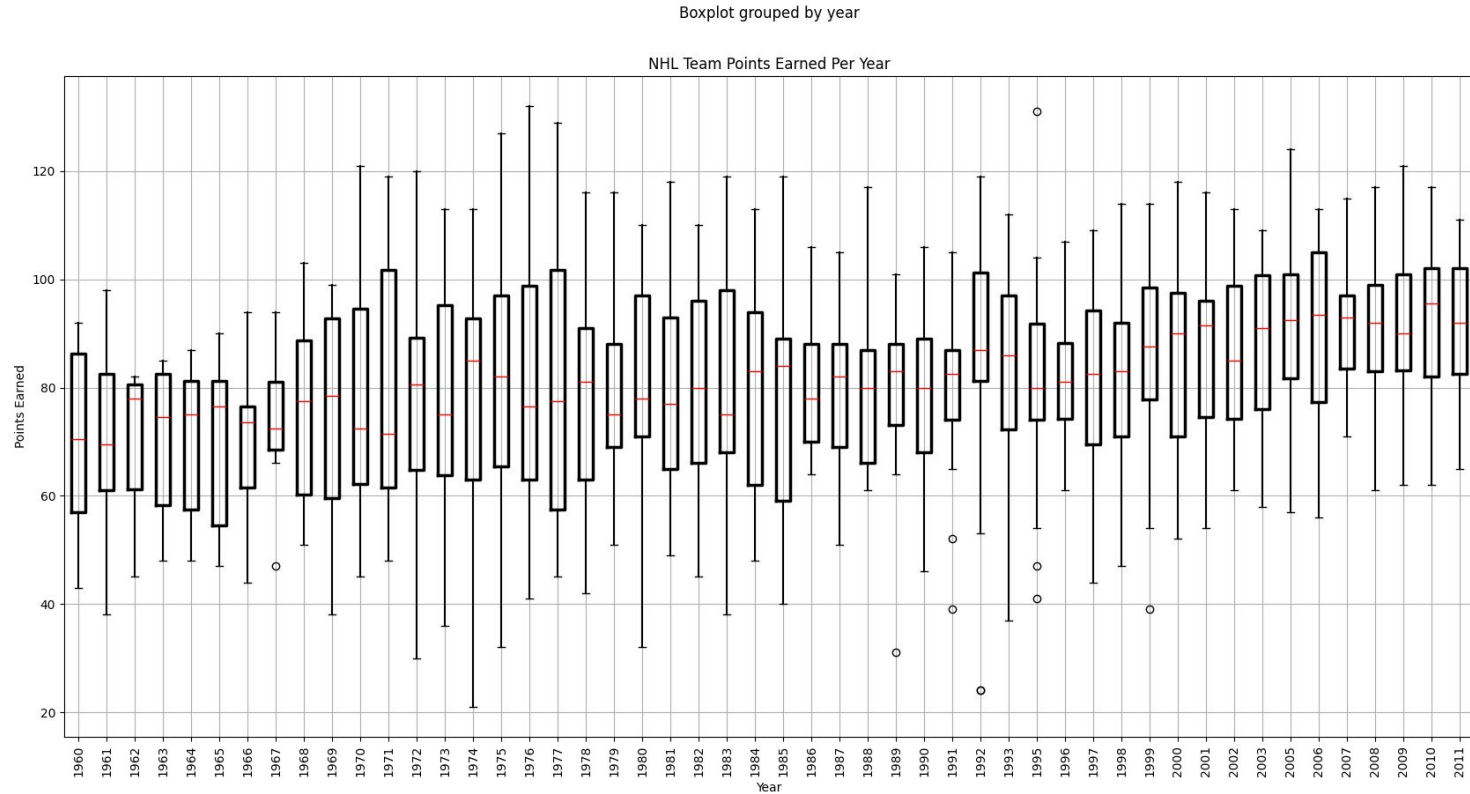
- Has team performance changed over time?
- Teams earn 2 points for a win, 0 points for a regulation loss and 1 point for an overtime loss.
- The distribution of team results is clearly condensed from the 1970's to 2011, which perhaps shows that the league's competitive balance improved.
- This is also evident when looking at the results by variance, median and quartile.



Team Performance



Team Performance by Quartile

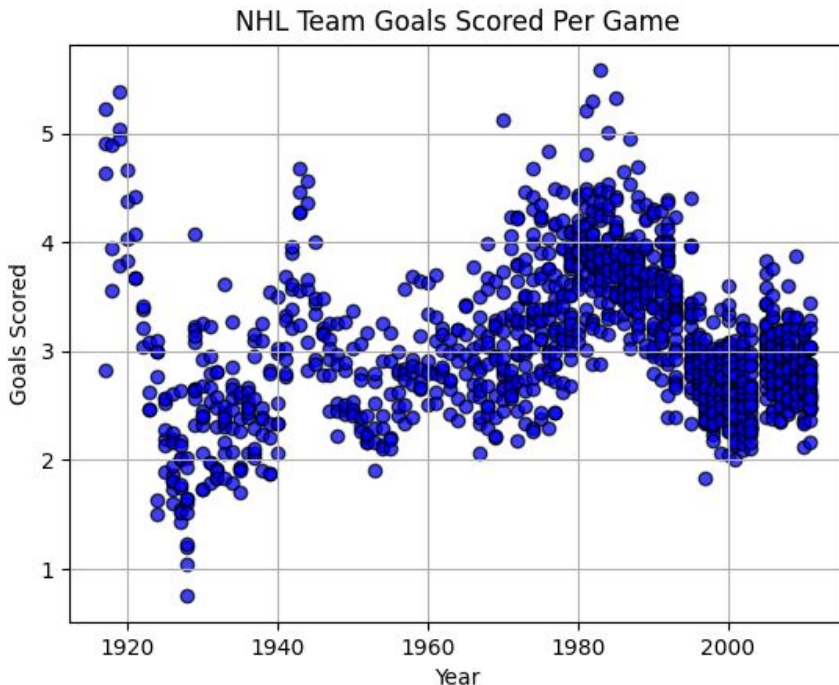


Team Performance - Takeaways

- Over time, we found a decrease in team point variance and an increase in median points earned per year. We also noticed a decrease in size on the boxplot between the first and third quartile, specifically from the 1970's to 2011.
- These results point to a more competitive and balanced league as a whole. This can be explained by a variety of factors, including:
 - Salary cap restrictions
 - Draft structure (worst team from previous year earns the first pick)
 - Increase in player quality and development
- A balanced league provides greater entertainment value, as more teams deeper into the season have realistic chances of qualifying for the playoffs.

Team Scoring

- Has goal scoring evolved over time?
- A steady increase in goals scored per game is observed from the 1950's to the 1980's.
- The subsequent decrease in goals scored per game can be attributed to a variety of factors:
 - Defense emphasis (in coaching, player development, tactics, etc.) to counteract NHL offenses.
 - The 1985 offsides rule change (which prevented players from staying in the offensive zone)



Data Insights & Conclusions

- Team Performance

- A tighter distribution of NHL team points earned per season shows an increase in the competitive balance and quality of the league.
- Some of the factors that contributed to this trend were rule changes, salary cap restrictions, and an overall development of players and coaching.

- Scoring

- A steady increase in scoring from the 1950's-early 1980's gave way to a decrease in scoring from the 1980's-early 2000's.
- As the league developed offensively, tactical changes, rule changes, and an overall defensive emphasis helped teams better defend NHL offenses.