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NHL 2022-2023 Regular Season Stats

The Original Thought: I have always been an NHL fan, more specifically of the Colorado Avalanche. There have been many questions that surround how much playing at a team’s home arena matters and the relevance of one team being favored over one another. This led to two main questions:

Question 1: How often does the home team beat the away team. In other words, how often does the home team outscore the away team.

Hypothesis: The Home Team will win more games total in the regular season than the away team.

Question 2: When a team is favored to win, how often do they win the game?

Hypothesis: When a team is favored to win, they will win about 65% of the time.

Data: The data that was obtained for this project was found at 538, a popular data collection center. The data covers all games that were played in this year’s regular season.

Mejia, Elena. “2022-23 NHL Predictions.” *FiveThirtyEight*, 4 May 2023, <https://projects.fivethirtyeight.com/2023-nhl-predictions/>.

Solving the Questions

Question 1: How often does the home team beat the away team. In other words, how often does the home team outscore the away team.

Inside of the Excel Spreadsheet (check github for sheet), there is every game in the season presented, as well as the final scores for the home team and away team.

Text

Description automatically generated with low confidence

As can be seen above, I used the highlighted columns R and S. The R column is the home team’s score and the S column is the away teams score.

On a separate sheet on excel, (also listed on github), I used an if statement to show the games the home team won and the away team won. In this case, the data is read left to right and if the home team wins it is listed as “Win”. If the away team won, it is listed as “Away Win”. This can be seen below

Table

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The equation I in the “Home Team Win?” column is as follows: =IF(nhl\_elo\_latest!R2>nhl\_elo\_latest!S2,"Win","Away Win")

This equation basically reads, if R2 (Home Team Score) is greater than S2 (Away Team Score), then the result is win, and if the opposite then it is listed as away win.

The data starts at R2 and S2 since that is the first game that is played at the start of the season. The next row would be the same equation, just using R3 and S3 instead of R2 and S2. This would repeat for all 1312 games played.

After this, I tallied the how many results came out as “Win”, meaning the home team won and put it on a graph as seen below.

Chart, pie chart

Description automatically generated

It can be noted from this graph the home team won 52% of the games this year, to the away team’s 48%. This means the home team out of 1312 NHL games, won 687 of the games to the away teams 625.

Question 2: When a team is favored to win, how often do they win the game?

This question is much more complex due to their being four possible results:

1. Home Team Favored and Won
2. Home Team Favored and Lost
3. Away Team Favored and Won
4. Away Team Favored and Lost

Instead of just using the R Category (Home Team Score) and S Category (Away Team Score), I factored in the M Category (Home Team Win Probability) and the N Category (Away Team Win Probability).

In order to understand how the data interacts above, this chart in excel explains it perfectly

Graphical user interface, text

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It reads as follows: if M>N (Home Team Win Prob is greater than Away Team Win Prob), and R>S (Home Team Score is higher than away team score), that means the home team was favored and won the game. And so on for the other three outcomes.

The equation was a bit of a pain to put together, as there are a total of 4 conditions that must be checked:

1. Is the home team favored?
2. Is the away team favored?
3. Did the home team outscore the away team?
4. Did the away team outscore the home team?

In order to meet all those conditions, this was the formula that was used:

=IFS(AND(nhl\_elo\_latest!M2>nhl\_elo\_latest!N2,(nhl\_elo\_latest!R2>nhl\_elo\_latest!S2)),"Home Team Favoured and Won",AND(nhl\_elo\_latest!M2>nhl\_elo\_latest!N2,(nhl\_elo\_latest!R2<nhl\_elo\_latest!S2)),"Home Team Favoured and Lost",AND(nhl\_elo\_latest!M2<nhl\_elo\_latest!N2,(nhl\_elo\_latest!R2>nhl\_elo\_latest!S2)),"Away Team Favoured and Lost",AND(nhl\_elo\_latest!M2<nhl\_elo\_latest!N2,(nhl\_elo\_latest!R2<nhl\_elo\_latest!S2)),"Away Team Favoured and Won")

This equation is very complicated on the surface, but it essentially does what was talked about above to check the four conditions.

The final table looks like this:

Table

Description automatically generated

The equation was ran for all 1312 games checking for teams that were favored and won.

To count all the times a team was favored and won this equation was used:

=COUNTIF(P:P,"Home Team Favoured and Won")+COUNTIF(P:P,"Away Team Favoured and Won")

Essentially, the function COUNTIF, is counting home many times the P column (Favoured and Won Column) that the home team was favored and won plus when the away team was favored and won.

The final count for the team being favored and won is shown in the table below. Table

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In a total of 1312 NHL games, when a team was favored, they won 794 games or 60.52% of those games.

In a total of 1312 NHL games, when a team was favored, they lost 518 games or 39.48% of those games.

Chart, pie chart

Description automatically generated

To circle back to the orginial quesiton: When a team is favored to win, how often do they win the game?

The answer? When a team is favored to win the game, said team wins 60.52% of games in the NHL 2022-2023 Regular Season.

**FOR MORE IN DEPTH DETAILS OF THE DATA, CHECK THE FULL SPREADSHEETS POSTED TO GITHUB.**