Indicators of Postseason Success in Major League Baseball

What do World Series-winning teams do during the regular season that indicates a higher chance of success in the postseason?

Background

- An MLB season for one team consists of 162 games.
- The postseason can consist of anywhere from 12-22 depending on how quickly a team wins their games.
- The league currently has 30 teams, with 10 making the playoffs.
  - The MLB is divided into 2 leagues, each with three divisions. Division winners automatically make the playoffs, and each league has two “wild-card” teams that play a one game elimination round to see who advances.
- I examine data from 1970-2009. The only year not to have a World Series in this stretch was 1994, a strike-shortened season.

Why did I ask?

- The “best” team during the regular season is not a shoe-in to win the World Series. Since 1970, only 10 teams have won the most games and won the World Series.
- This suggests the need for a better characterization of the “best” team.

- So what makes a team the “best”?

The Basic Idea

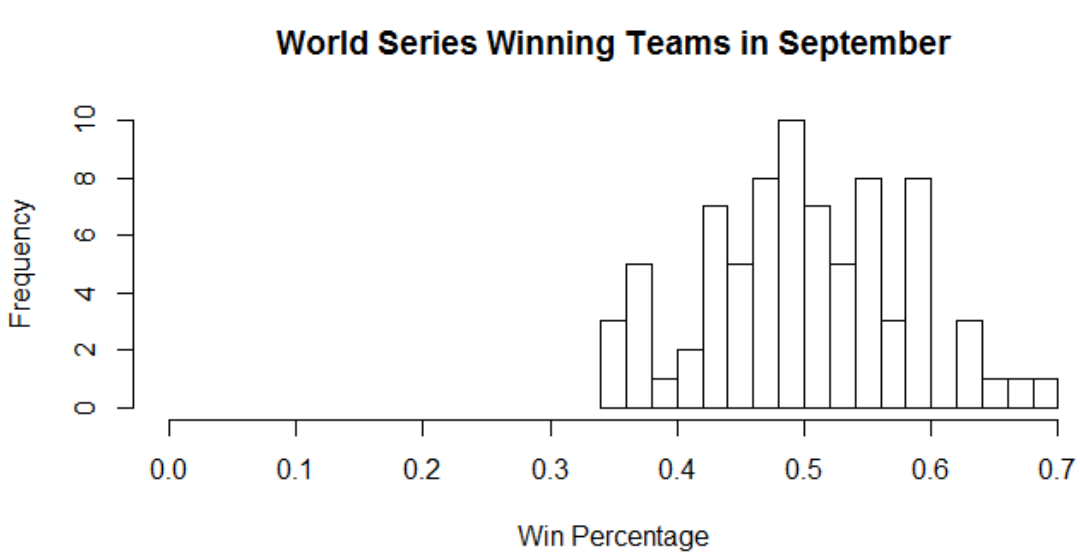
- In the long run, teams will play half of their games against “above average” teams, and half against “below average” teams.
  - But these games are not equally indicative of a team’s skill level. Losing a close game to a very good team could carry more weight than an easy win over a very bad team. Wins over good teams mean more than wins over bad teams.
- Every team also plays the same number of games in April as they do in September.
  - But games played in April say little about a team’s skill level in October. Considering injuries and mid-season acquisitions, teams can look very different at these two times of the year.

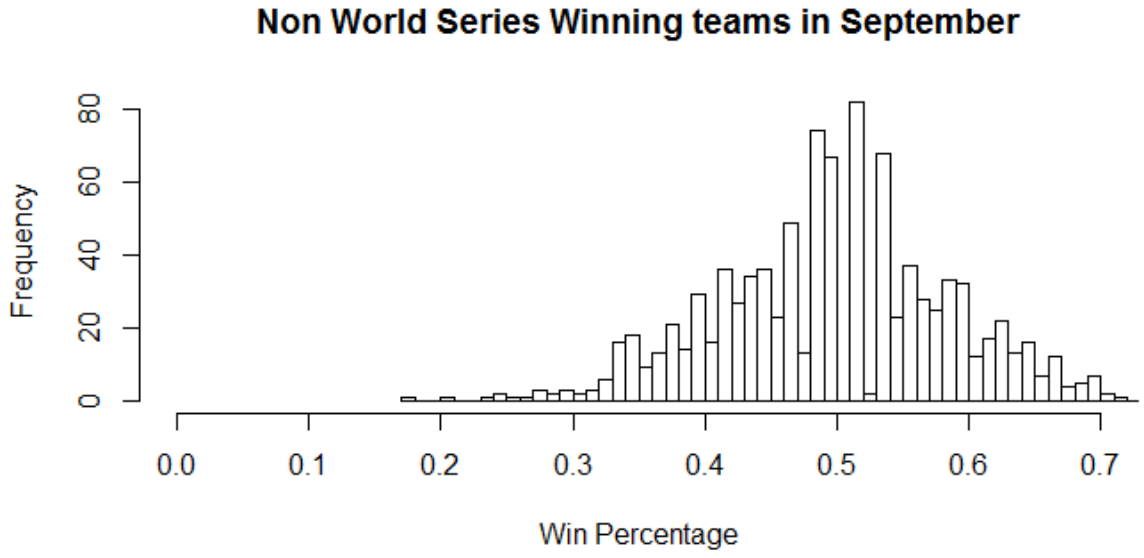
So what do we do?

- To place more weight on games against good teams, I calculated the win percentage of each team against teams that finished in the top third of the league in that year.
  - I chose the top third because (these days) roughly a third of the league makes the playoffs, and it makes sense to see how a team plays against other playoff-caliber teams.
- To place more weight on late-season games, I calculated the win percentage of every team just in September/October of the regular season.
  - This gives us an indicator of whether a team is “hot” or “not” going into the postseason.

Results: Winning in September

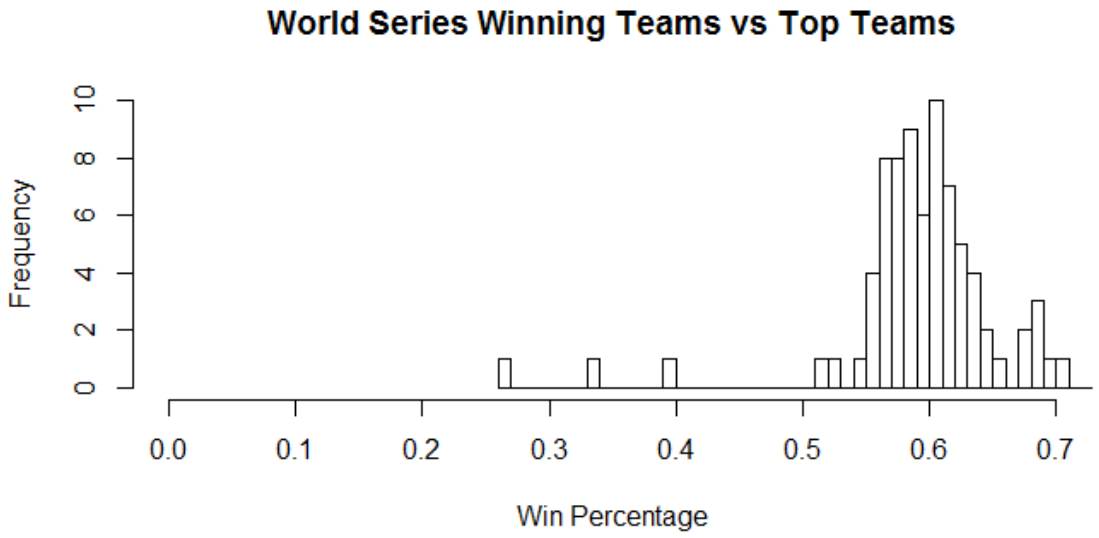
- It turns out that success towards the end of the regular season does not necessarily carry into the playoffs.
  - Both parametric and nonparametric tests reveal that the difference in average of world series winners, and those who did not win the world series, is insignificant.

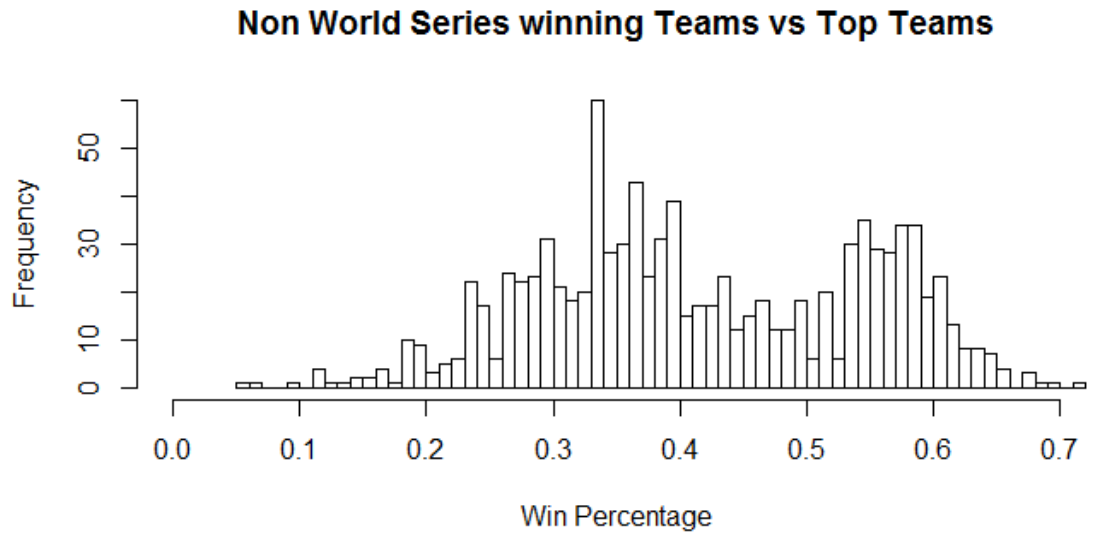




Results: Winning against Top Teams

- There is a significant difference in how well world series winning teams performed against top teams in the league, and how the rest of the league performed against top teams.
  - Tests reveal a significant difference in the average win percentage of the two groups.





Conclusion

- The information gleaned from this project does little to predict an actual winner of the world series. HOWEVER it introduces a criterion for even being considered for postseason success.
- Teams that win the most regular season games have gone on to win the World Series 10 times from 1970-2009
  - But these teams are *guaranteed* to make the playoffs, while teams with a win-percentage against top teams > .575 are not. Teams with the most wins are also given the easiest path to the World Series (as in any bracketed competition). From a Bayesian standpoint, the prior probability of a team with the most wins going on to win the World Series is much higher than the prior probability of a team with a win-percentage against top teams > .575 going on to win the World Series.

Conclusion

- When we take into account that teams have to make the playoffs *and* go on to win the World Series, we find that, there is a 47% chance that the World Series winner is a team with a win-percentage versus top teams greater than .575.
- That is a significant improvement over blindly choosing the “best” regular season team to win it all.

Potential Problems With my Analysis

- Small sample size
  - Only 39 teams have won the World Series in the time period I'm working over
  - In each season, teams play a limited number of games against good teams
- My coding skills are far from perfect, and it is possible that I made a mistake somewhere in my code which skewed my results.
- The playoffs are structured differently now than they used to be.
  - Today, teams have to win at minimum 3 different series (one best of 5, two best of 7), including a possible one game elimination round.
  - From 1969-1993, teams had to win only two rounds, and from 1994-2012 there were three rounds, and no "play-in" game.
  - This change in playoff format may have skewed a teams likelihood of winning the World Series in the earlier years, since it was easier once a team was in the playoffs.

Citation

- Retrosheet
  - The information used here was obtained free of charge from and is copyrighted by Retrosheet. Interested parties may contact Retrosheet at "www.retrosheet.org"
- Baseball Prospectus
- Baseball Reference
- Wikipedia