THE SEASON 2018

LA LIGA

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THE SEASON

The season 2018 of La Liga was very favorable for Barcelona FC, who accumulated 93 points and was crowned as champion of the tournament. Followed by Athletico Madrid and Real Madrid. Conversely, the results for Coruña, Las Palmas and Malaga led them to relegate to second division. The season shows a mean per game of 5 yellow cards, 10 corners, 24 shots, 3 goals, and 9 shots to the target, which gives us a probability of goal of 33% from the number of shots to target (Figure 1, 2)

Figure 1. Resume of general statistics of La Liga season 2018
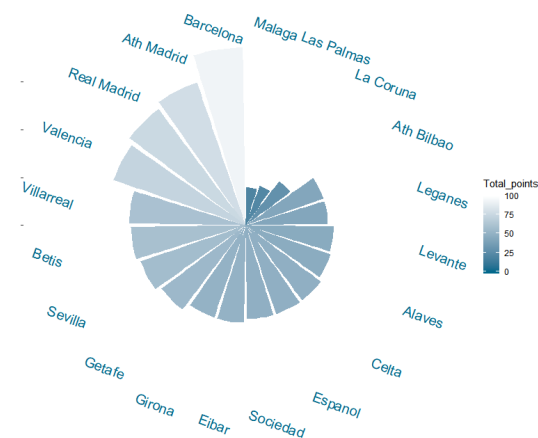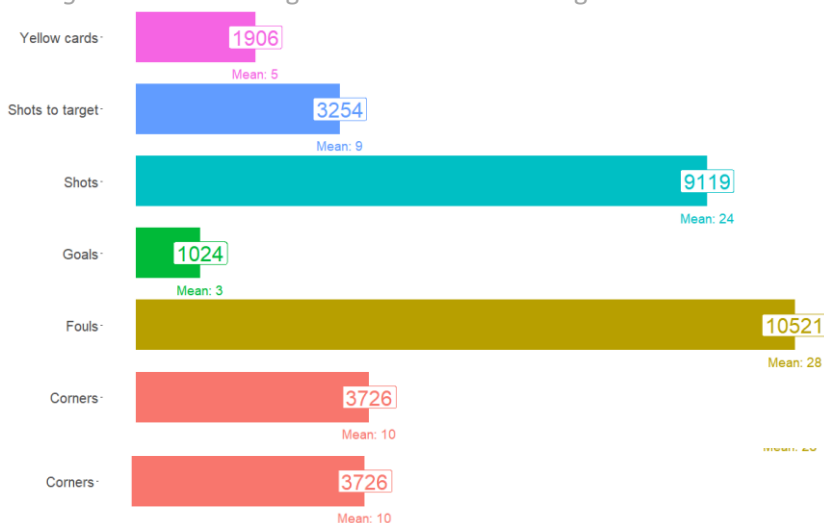

Figure 2. Total points

The number of games won at home is greater than the number of games won outside. This is in accordance with some studies[1] that reveal that in fact the probability of winning at home is greater and not only in soccer. Analyzing the data for every team, separately, it is seen that for each team there is a mean difference of 17% from the probability of winning home vs away. (Figure 3, 4)

Figure 3. Match results of the season

- Home win (179 games)= 47%
- Draw (86 games)= 23%
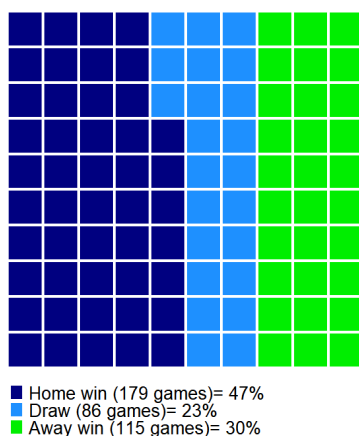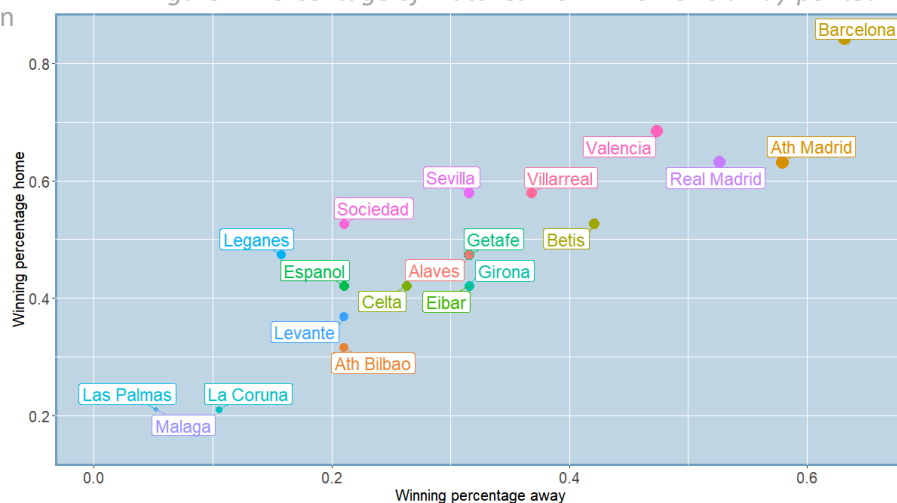- Away win (115 games)= 30%

Figure 4. Percentage of matches won in home vs away per team

1/ (2011) Home Advantage In Sports: A Scientific Study Of How Much It Affects Winning. Home Advantage In Sports: A Scientific Study Of How Much It Affects Winning. Retrieved from on October 2019 from: https://www.sbnation.com/2011/1/19/1940438/home-field-advantage-sports-stats-data

(2008) Home sweet home? Retrieved from on October 2019 from: https://www.theguardian.com/sport/2008/feb/03/features.sportmonthly16

(2016) Is playing at home really an advantage? Research says …. Retrieved on October 2019 from: https://www.sportingnews.com/us/nfl/news/nfl-conference-championship-games-home-field-advantage-records-panthers-bronocos-mlb-nba-nhl/1xio6320kqfb51q28da09zdlyl
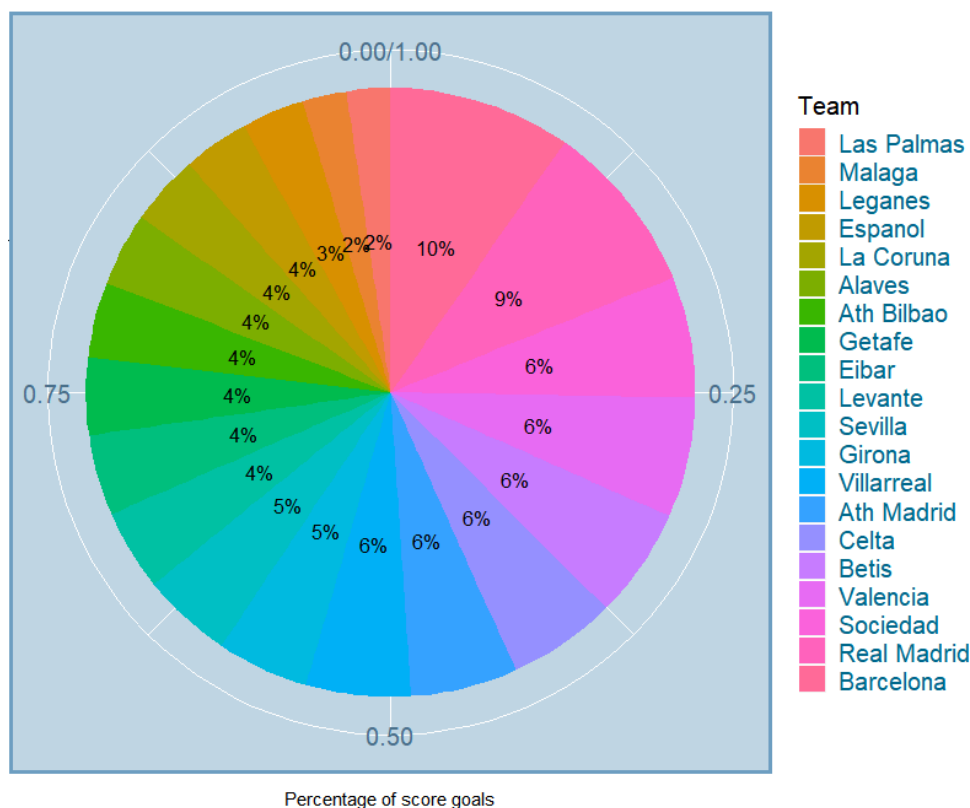
Figure 5. Percentage of goals for each team

The number of goals scored by the teams in the top positions differ significantly. This is how Barcelona scored 41 goals more than the second team in the table, Atletico de Madrid, which shows a sum of points for games won greater than Real Madrid but with winnings with a lower differential. Two special cases are the ones of Sociedad and Celta, that have scored more than the goals of some of the teams that occupied the first places but also have received more goals that difficulted their chances of classifying to the International tournaments.

Additionally, as it seen the number of goals scored by only three teams sum 25% of the total number of goals scored in the whole season.
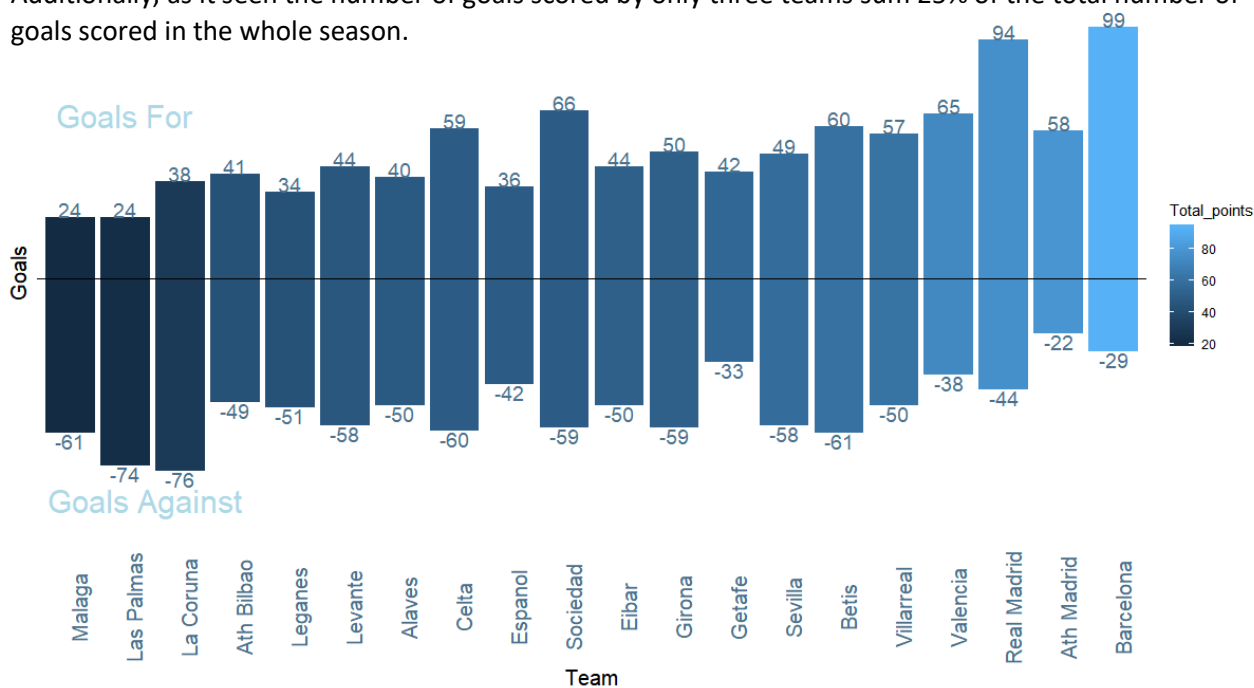

Figure 6. Number of goals for and against vs total points.

The statistics for the top 5 teams on the table of the classifications shows a clean game of Barcelona, with less yellow cards and fouls. Additionally, less draws and only one lost game in the season. Reviewing the statistics of the results of half time vs the final result, it is shown that Real Madrid have won all of its games in the first half (Figure 8), this denotes the following of strategies for assuring results and which could have help it to achieve a better performance.
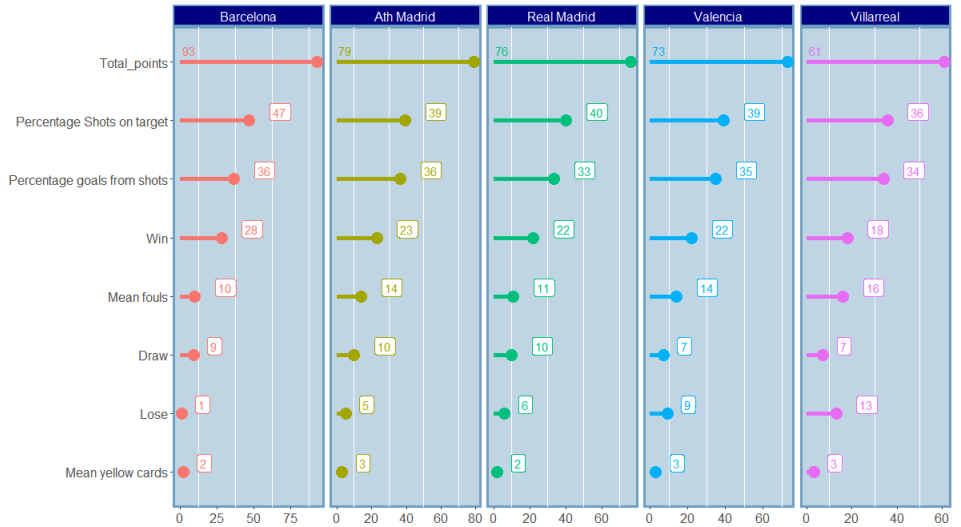

Figure 7. Resume statistics for the first 5 teams in the table ranking.

The other four teams show similar results and denote that more than 50% of the victories are gain in the first half.
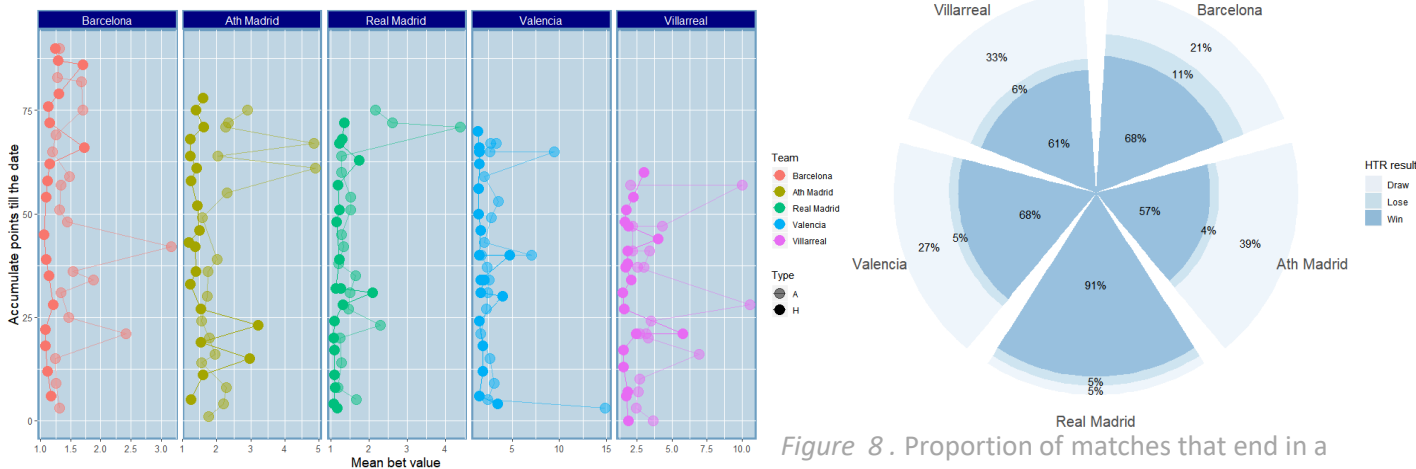

Figure 9. Bet value for each game for the first 5 teams vs the points accumulated before that date, separate if match is in home or away.

Figure 8. Proportion of matches that end in a win divides by half time results.

If it is compared the sequential accumulated points that each team made at a certain date vs the mean of the bet value of the betting houses (Figure 9), it is evident that Barcelona and Real Madrid are two teams that even with low points, their bets remains low. This could be because of the popularity of these teams and trajectory. In both cases, all the points that are seen as outliers correspond to games away against each other. And once more, it is obvious that the probability of winning is expected to be greater in games when the play in its stadium, this is even more evident for Barcelona. On the other hand, even though, Atletico Madrid, Valencia and Villareal were continuing to gain points through the season the variability of the bets is much greater, reaching values above 5 and even 15.
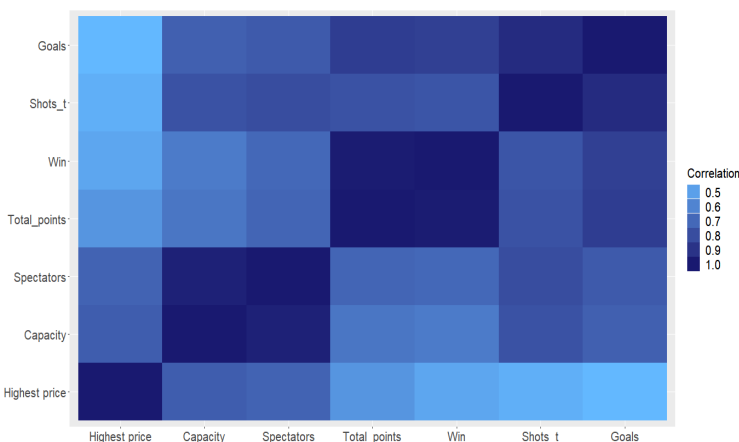

Figure 10. Correlation matrix.

A correlation matrix (Figure 10) is a way of explaining the relation between some variables and how the movements between them are associated. All the coefficients returned positive, its means that the variables move in tandem.

Figure 11. Map of the ubication of the stadium for each team and the highest price of tickets for the season.

The price of the tickets for the games in this season are related with a 0.74 coefficient with the capacity of the stadium, there are some prices which might seem distorted like the highest price for Espanol that is greater than the highest price for Real Madrid (Figure 11) but this can be explained by the capacity of the stadium, since the locations is lower, the prices are increased by the demand.

Celta
City: Vigo
Stadium: Balaídos
$: 50

Ath Bilbao
City: Bilbao
Stadium: San Mamés
$: 110

Alaves
City: Vitoria-Gasteiz
Stadium: Mendizorroza
$: 65

Sociedad
City: San Sebastián
Stadium: Anoeta
$: 50

Girona
City: Girona
Stadium: Montilivi
$: 60

Real Madrid
City: Madrid
Stadium: Santiago Bernabéu
$: 155

La Coruna
City: La Coruña
Stadium: Riazor
$: 40

Leganes
City: Leganés
Stadium: Butarque
$: 35

Getafe
City: Getafe
Stadium: Alfonso Pérez
$: 70

Eibar
City: Eibar
Stadium: Ipurua
$: 35

Villarreal
City: Villarreal
Stadium: Cerámica
$: 40

Espanol
City: Cornellà de Llobregat
Stadium: RCDE Stadium
$: 160

Ath Madrid
City: Madrid
Stadium: Wanda Metropolitano
$: 180

Levante
City: Valencia
Stadium: Ciudad de Valencia
$: 70

Betis
City: Sevilla
Stadium: Benito Villamarín
$: 80

Sevilla
City: Sevilla
Stadium: Ramón Sánchez
$: 50

Malaga
City: Málaga
Stadium: La Rosaleda
$: 60

Valencia
City: Valencia
Stadium: Mestalla
$: 75

Barcelona
City: Barcelona
Stadium: Camp Nou
$: 134

Las Palmas
City: Las Palmas
Stadium: Gran Canaria
$: 65

Other relevant strong results are the relationship between shots to the target and goals, average number of spectators for the games and capacity.

Figure 12 shows the proportion of victories respect the results in the half time.

The most of the time when a team is winning the first round of the match, they finally win, only with the exception of Betis, Leganes and Levante, whom won more matches when they were drawing in the first half.

The only teams which won a match when they were losing the first round are Barcelona (two times), At. Madrid, Espanol, Getafe, and Villareal.
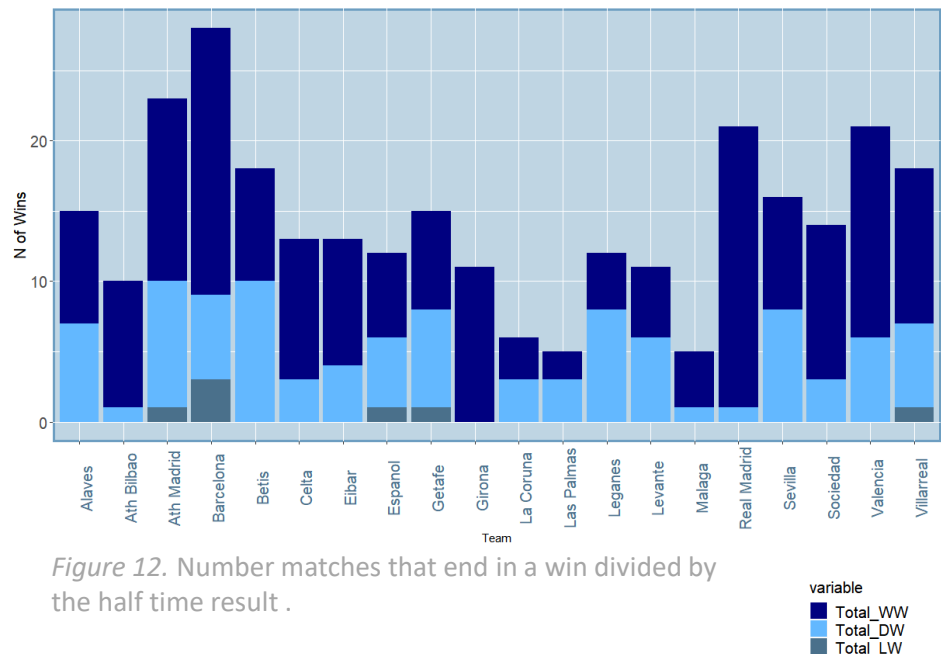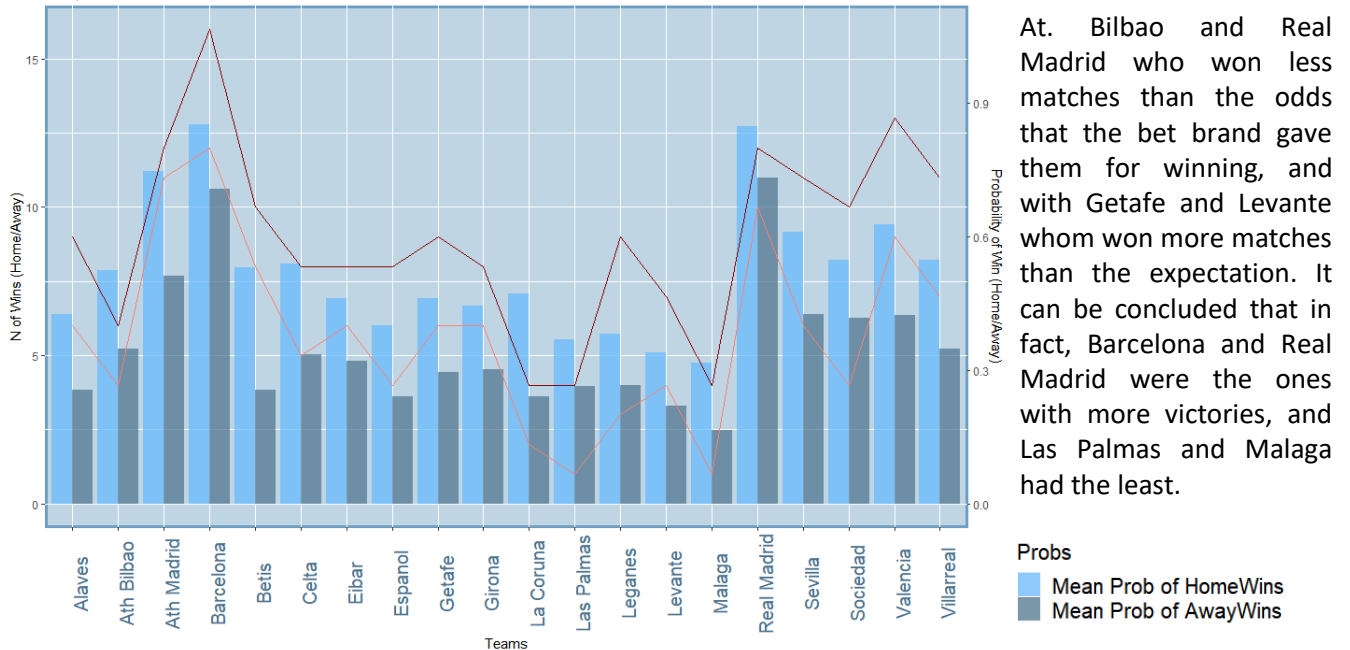

Figure 12. Number matches that end in a win divided by the half time result .

variable
Total_WW
Total_DW
Total_LW

Real Madrid didn't won any match if they were losing in the first round, but this is because all the matches they won (except one), they were winning them from the beginning, as it was previously commented.

At it has been shown the number of home wins are higher than the away wins. This make sense because at home you count with the supporters and the advantage to play in your own field. It is also observed that the bet brands guessed well in most of the cases, except with

*Figure 13.*Mean bet value for winning for each team for away and home matches vs Number of home wins and away wins.

At. Bilbao and Real Madrid who won less matches than the odds that the bet brand gave them for winning, and with Getafe and Levante whom won more matches than the expectation. It can be concluded that in fact, Barcelona and Real Madrid were the ones with more victories, and Las Palmas and Malaga had the least.

As it can be observed, the teams with more probability to win are Barcelona and Real Madrid, although Barcelona has a couple of points more. If we check the final classification, we can see that, in effect, Barcelona won the League. (Figure 14)

On the other hand, the team with less expectation to win is Levante, although they didn't relegate to second division finally. Malaga was the second with less odd to win and, in effect, they were the last in the League.

Betis is the one with more fluctuation, so it could be a good target to bet for when it has high probability of winning.

In order to conclude, we can say that the majority has less than 50% of probability to win, and only At. Madrid, Barcelona, Real Madrid, Sevilla, Real Sociedad and Valencia, are the ones that the betting houses opt for.
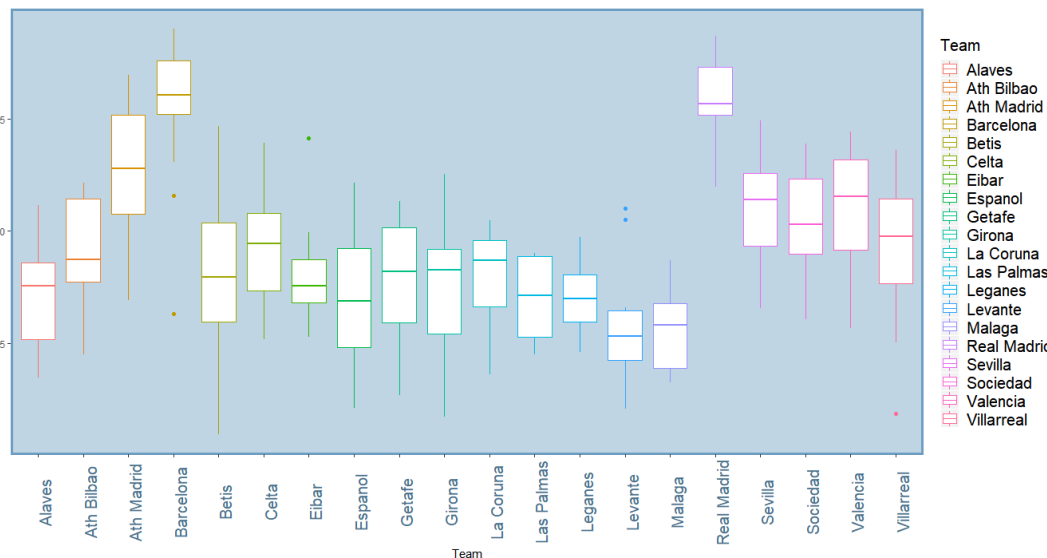

*Figure 14.*Mean bet value for winning for each match

By calculating the remaining points of the sum of win, draw and lose probabilities, it can be deduced that William Hill is the most expensive bookmarker, as they earn more with each bet. On the other hand, Pinnacle is the most conservative and pays less. It is seen that per one euro betted in one match the bet companies earn around 5 cents. (Figure 15)
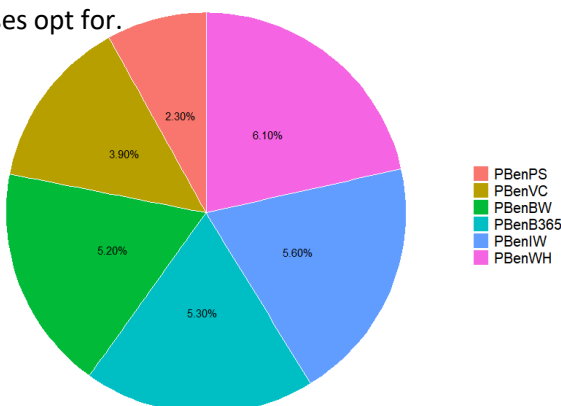

*Figure 15.*Benefit that each bookmarkers takes.