

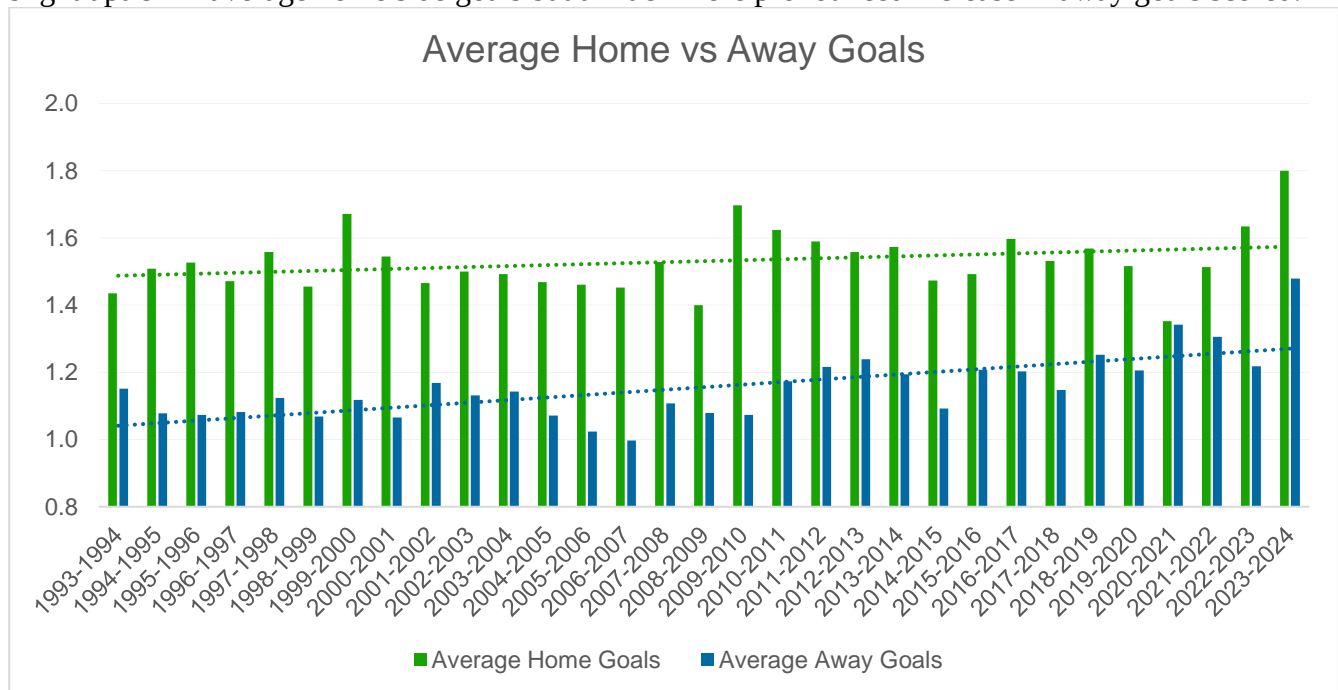
The Report:

The English Premier League is the top professional soccer division in England which was formed in 1992 to break away from the English Football League and give the top clubs greater share of revenue and influence over league management. It has since grown to become the most lucrative division in club soccer and broke into the top five of most lucrative leagues in the world, the only league not based in the United States and Canada. It now generates about 7 billion euros in revenue annually and is considered a top flight league, with 32 UEFA Champions League finals with EPL teams as 15 of the 64 finalists, winning the Champions League final 7 times. Three of those finals featured two EPL teams playing each other.

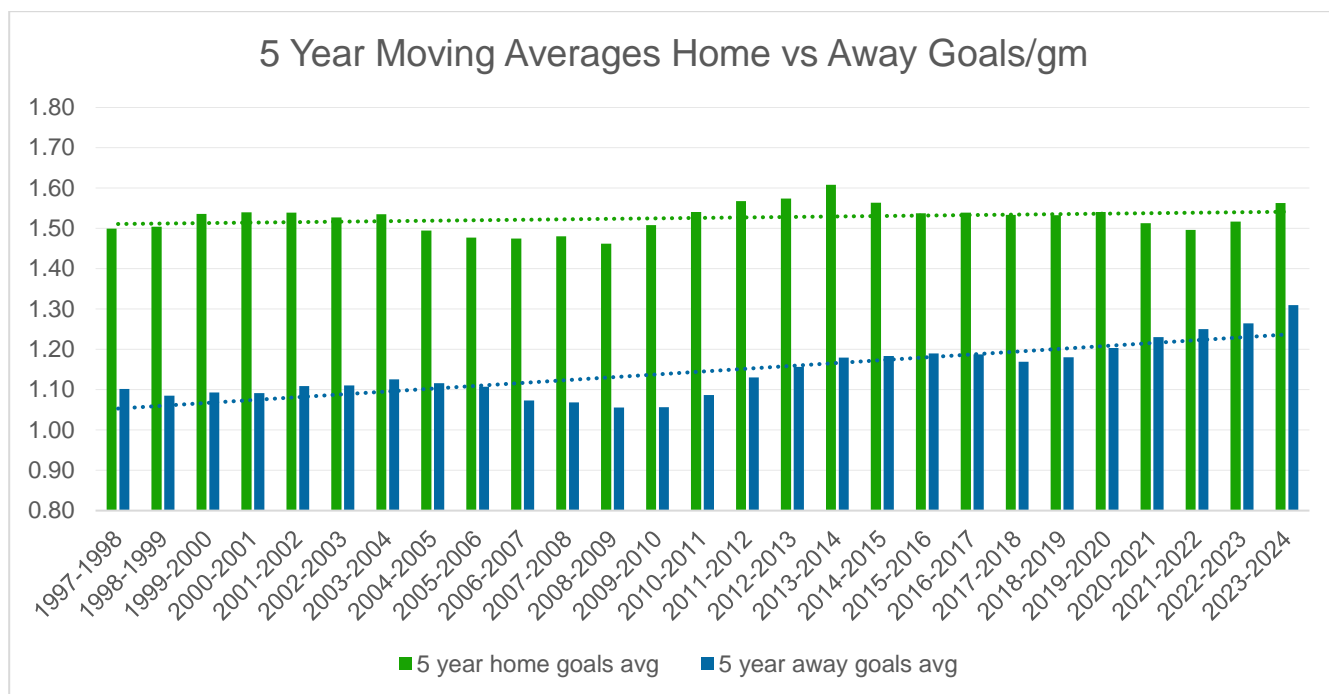
As the game as developed, it would be interesting to see what kind of trends we can see in the English Premier League since its inception. While the sport remains heavily reliant on the “eyeball test” of scouting and observation, there is a role for the emergence of Big Data methodologies in developing insights into the development of the game. Analytics builds on domain knowledge in most business ventures and professional football is no different.

The core component of the game is as simple as it could be, score more goals than your opponent and avoid having them score more than you. To pull data on what trends have emerged in the history of English Premier League, I used CSV files pulled from an oddsmaker website [Football-Data.co.uk](https://www.football-data.co.uk). I downloaded the CSV files for each full season from 1993-1994 to 2023-2024. Using pivot tables for each season’s worksheet, I found the averages, where available, for goals scored at home versus away, home vs away wins, home versus away red cards and yellow cards.

The most basic statistic, average goals at home versus away, shows that there is a relatively slight uptick in average home side goals but a much more pronounced increase in away goals scored.



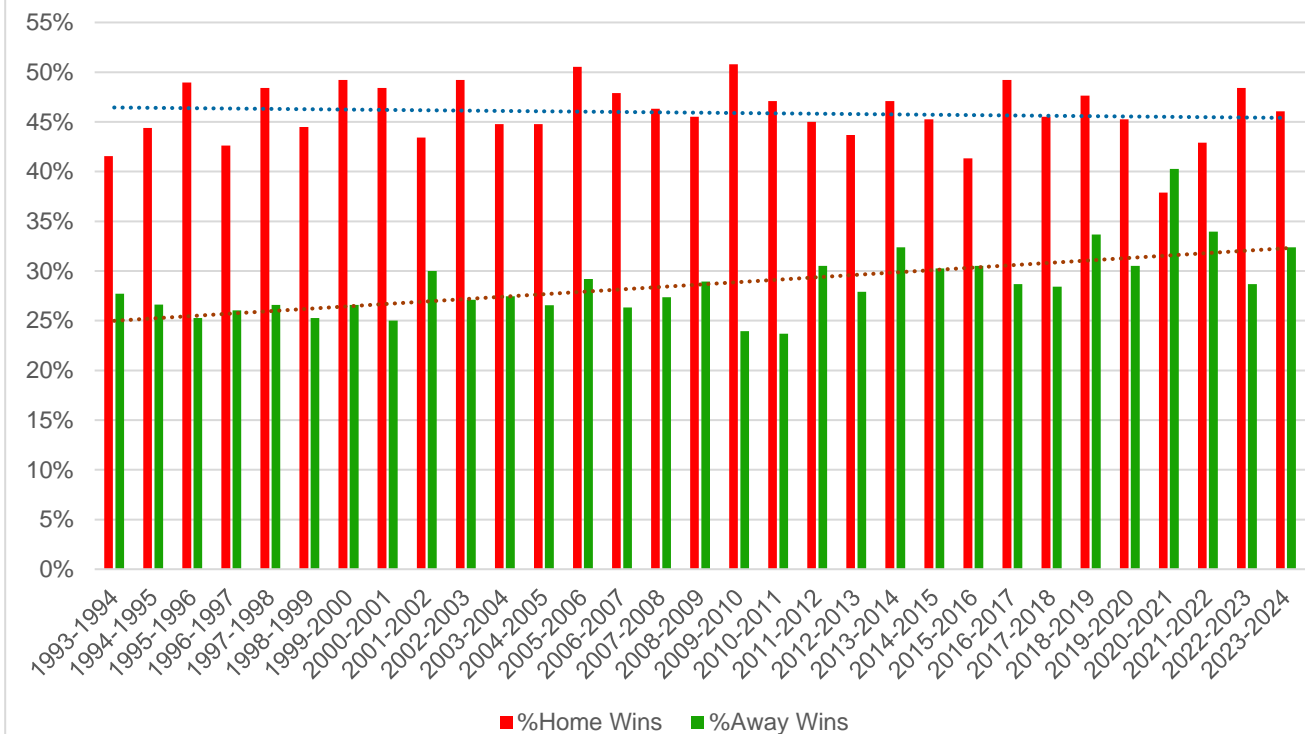
If we calculate the five point moving averages, thus starting in 1998-1999 season, we see the pronounced uptick in average away goals per game as even more pronounced while the average home goals per game appears to be basically flat, hovering slightly above 1.50 goals per game while the away goals per game trends from about 1.10 in the five years from 1993-1994 to 1998-1999 leading up to 2018-2019 to 2022-2023 :



From this chart we can see that while the five-year home gls/gm average only increases trends from about 1.51 to about 1.54 goals per game, the five-year away gls/gm average trends from about 1.05 in the five years from 1993-94 to 1997-98 to about 1.25 by 2023-2024. This shows that away teams become more competitive over the course of league history.

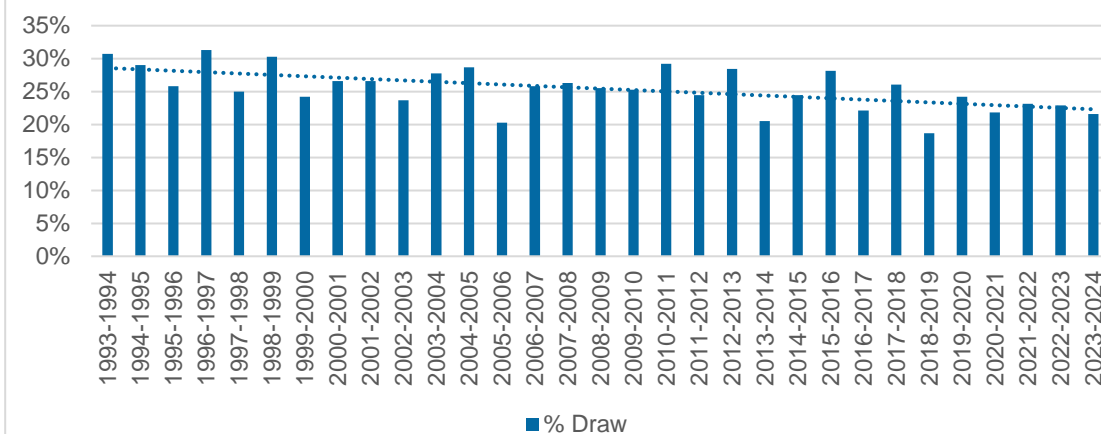
How the trends in goals scored per game for home or away sides translates into results can be seen in the end results, whether the home side wins, draws, or loses. We can see from this chart that while home side win percentages hover around 46-47%, the trendline for away wins increases from about 25% to about 32%.

Percentage Home vs Away Wins per season



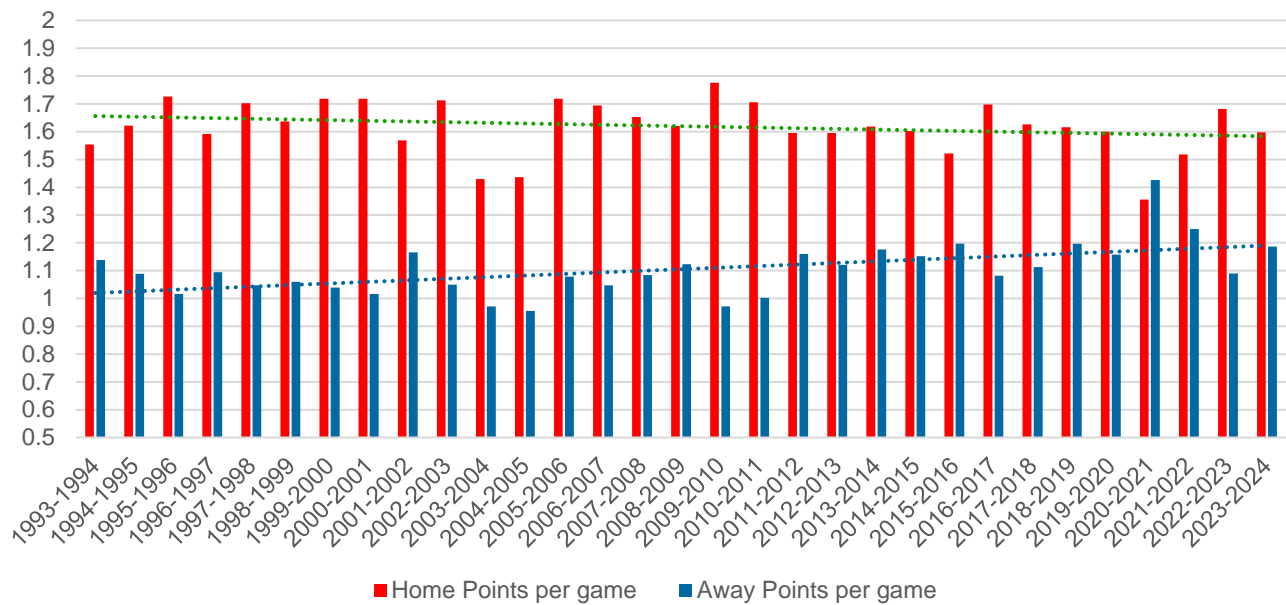
We can also take a look at the third possible outcome, a tied game, which is generally more of an advantage for the away side than the home side, given that playing at home is an advantage. We see that over the thirty year history, the draw percentage trends downward from about 29% to 21%.

Percentage Draws



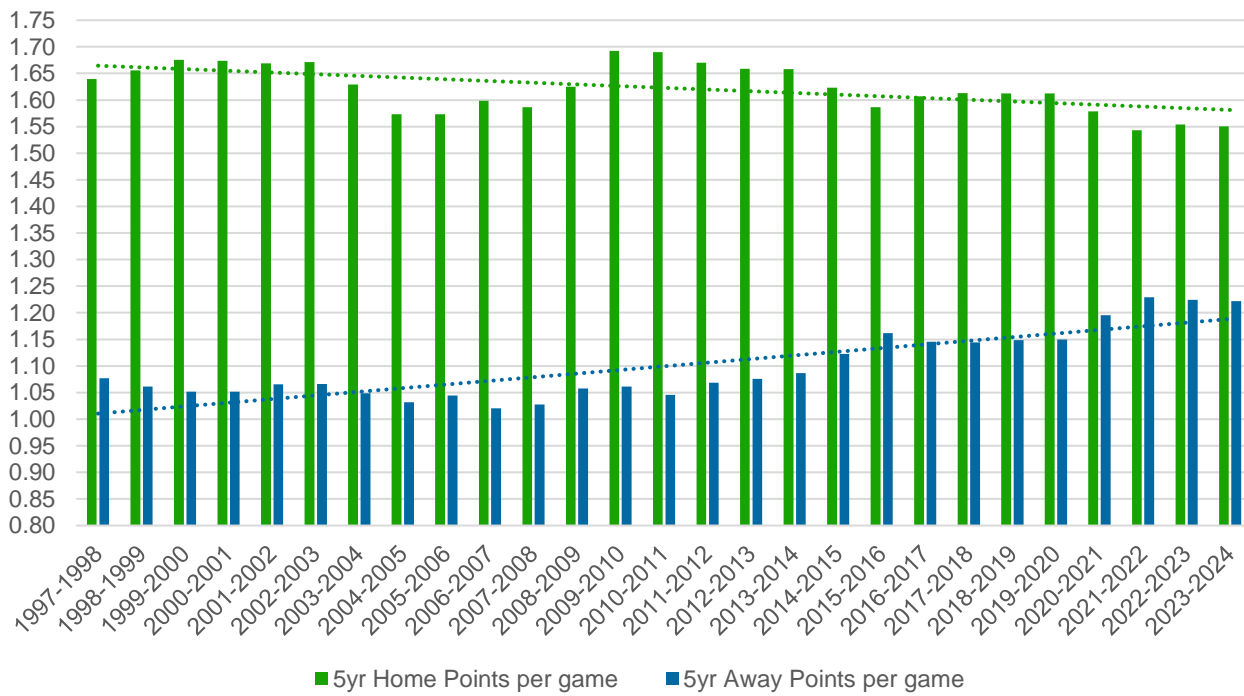
This means that, on the whole, the home side is less likely to win points at home while the away team is more likely to get more. To drill down into exactly how the points per game advantage for home sides changes we can put a graph of home points versus away points.

Percentage Home vs Away Wins per season



We see a major trend progression for away side taking more points in way games from about 1.01 in 1993-1994 trending up to almost 1.2 points per game in 2023-2024. To smooth out the variations per seasons, we can calculate the five year moving point average starting in the 1997-1998 season.

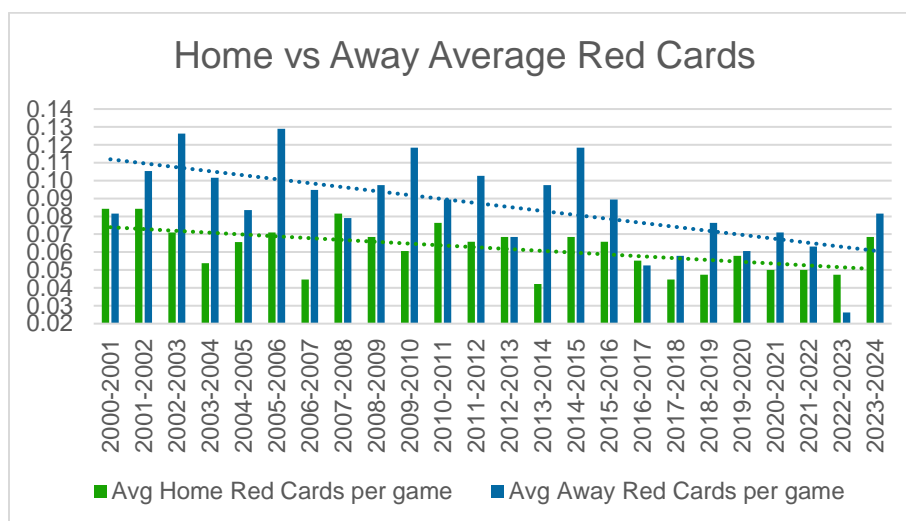
5 Year Moving Average Points per game Home vs Away



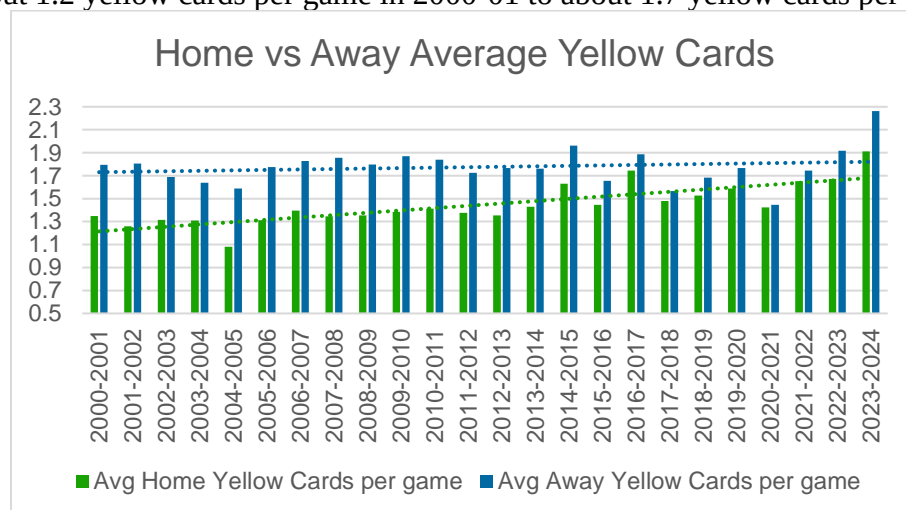
As we can see, the five-year average home points per game (ppg) from 1993-94 to 1997-98 trends down from around 1.66 ppg to about 1.58 ppg for the home side while the away ppg trends up from around 1.01 to about 1.19 ppg.

Finally, we can take a look at something that might be of side interest which is how the disciplinary measures of penalizing red or yellow cards have trended over the seasons. Given that our data set only gives us this measure starting in 2000-2001, this is the time period which we can show.

For red cards we see that the average red card per game for the away team trends downward from about .11 red cards per game for away sides in 2000-2001 to 0.06 in 2023-2024 while for home sides the trend is down from about 0.07 red cards per game to about 0.05.



The trends for yellow cards, in which a player is cautioned but not expelled from the game, is also of some minor interest. The average away yellow cards per game trends only slightly from about 1.7 yellow cards per game in 2000-01 to 1.8 yellow cards per game in 2023-24 while the home side trends from about 1.2 yellow cards per game in 2000-01 to about 1.7 yellow cards per game in 2023-24



These two charts suggest that home sides and away sides are approaching parity in terms of which team is more likely to be given more red or yellow cards. This suggests that the home advantage, as shown in the above analysis of goals per game as well as likelihood to be penalized with

The general trend suggests that away teams have a better chance to steal points over the course of EPL history.