

Win the Toss, Win the Match? Whinge or Reality

After England's defeat to India in yesterday's day-night World Cup Match at Durban, Wisden commentator Rob Smyth mused that this was one-day cricket of the 'win-the-toss-win-the-match-variety'. No doubt similar sentiments were expressed after England's win against Pakistan in a day-night match earlier in the tournament, albeit to a greater extent in the Pakistani than in the English media.

Mere whinging, or does the toss really have a significant effect on the result? To answer this question, let us consider *all* day-night matches between the nine major test playing nations (i.e. all excluding Bangladesh). There have been 505 such matches with a result, excluding ties and those where the weather prevented a result. Clearly, the outcome of the match depends upon the relative strengths of the two teams – if you were India playing the mighty West Indies in the mid-eighties, you didn't have too much of a chance (but it still was not zero, as one World Cup final testifies). Nevertheless, the fact is the coin toss will select the weaker team just as frequently as the stronger one – it is a *randomised trial* par excellence, of the sort conducted at great expense in medicine. Thus, if the toss itself has no effect, one would expect the winner of the toss to win the match 50% of the time, i.e. on approximately 252 occasions. The team winning the toss does better than this, winning on 273 occasions, i.e. 54 % of the time. Moreover, this difference is statistically significant – if the toss were in truth to have no effect, there is about a 3% chance of the winner of the toss winning as many times purely by chance. If you were a drug company and were able to demonstrate that your product was that much better than a placebo, you should be able to get it licensed. Winning the toss is good for your health in a day-night game. In contrast, in day matches, the team winning the toss appears to do no better than the loser. Indeed, the winner of the toss wins the match slightly less than 50% of the time, although this difference is not statistically significant.

Why is winning the toss important in day-night games? The evidence shows that the advantage seems to apply only on occasions where the winner chose to bat first. In both the England day-night games in the World Cup, the ball moved swung and seamed more for the team bowling under the lights. The batsmen may also be able to see the ball better in the daytime. In his comments after the England-India match, Darren Gough suggested that Australia was the only place where conditions didn't advantage the team winning the toss. If one leaves out day-night matches in Australia out, one finds that the team winning the toss wins on 57% of the occasions. Thus the difference between winning the toss and losing it is staggering 14% points in terms of the probability of winning.

Captains have chosen to bat first 70% of the time in day-night matches, whereas they have preferred to field first (60% of the time) in day matches. The toss advantage in day-night games seems to be restricted to those occasions where the captain who won the toss chose to bat. In games where the toss winner chose to field, the win percentage was 50%. Of course, this does not suggest that captains should always choose to bat first, since the superior win percentage while batting first may reflect conditions that were particularly good for batting.

Should the toss be allowed to confer such an advantage on the outcome of the game? I guess this depends upon your viewpoint --- for any other team taking on the Australians in this Cup, making them bat under the lights may offer the only serious chance of beating them. While luck will always play a role in cricket and other sports, from the point of view of the game the administrators need to make sure that skill is rewarded more rather than less. Day-night matches are a popular spectacle, and Cricket Boards will be reluctant to give them up. One solution is to improve lights, but perhaps this is not enough. One may need to modify the rules of the game so that the side batting under the lights is compensated for this disadvantage.