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ANOTHER LOOK AT THE 1985/86 SHEFFIELD SHIELD COMPETITION CRICKET RESULTS

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Introduction

This article aims to show how a simple analysis of competition results can yield valuable insights into team performance and competition rules. While the analysis has been done on the Sheffield Shield, similar analysis could be performed on any other cricket or sporting competition. While this simple analysis uses only the outcome of the matches (first innings win, outright or draw), similar calculations using wickets, runs or runs per wicket could be performed.

In the 1985/86 Sheffield Shield competition, the team leading on the first innings gained four points with eight points for an outright win. The results of the 1985/86 competition are shown below in Table 1.

TABLE 1. Results of the 1985/86 Sheffield Shield competition

Team	Outright Wins	First Innings Win	Total Points
NSW	4	6	56
Qld	4	5.5	54
Vic	2	8	48
WA	2	6.5	42
SA	2	3	25
Tas	0	1	4

The two top teams, NSW and Qld, played in the final at Sydney which was drawn but NSW won the Shield because of its top position. While NSW performed best under the rules of the competition, this may not necessarily indicate that NSW was the best team under all scoring systems and ground allocations. To determine how well each state performed, a more critical analysis of the results is appropriate. Here we analyse the year's results in various ways and suggest alternative methods of allocating points.

First innings win - outright win weighting

In the 1985/86 season a first innings victory gained four points, and outright victory

gained another eight points. In the past, other weightings have been used to give greater rewards to an outright victory four for a first-innings and 16 for an outright. In fact this weighting can be changed drastically without altering the above -order. Keeping first innings points at four, outright points can

come down as low as five and go up as high as you like and the above order will be preserved. But the scoring system has again been changed for the 1986/87 season. (Note: For 1987/98, a team earns four points for an outright win and two for leading on the first innings. However, any team that is beaten outright after leading on the first innings, loses its first-innings points. In addition teams who do not bowl the required number of overs may be penalised points.)

Home ground advantage

A greater insight into the year's results can be achieved by looking at where each team gained its victories. Table 2 shows the points won/lost in each match.

The home team is shown at the top of the table and the away team down the side. The entry shows the number of points won by the home team and the number of points won by the away team. Thus 8-4 in the SA column/Tas row tells us SA (home team) gained eight points for the outright, although Tasmania won first innings points.

TABLE 2. Points won/lost in each match.

	Home Team						
	NSW	Qld	Vic	WA	SA	Tas	Points Away
Away Team	For-Ag	For-Ag	For-Ag	For-Ag	For-Ag	For-Ag	Ag-For
NSW	-	0-4	4-0	12-0	40	0-4	20-8
Qld	4-0	-	4-0	4-0	0-12	0-12	12-24
Vic	8-4	4-0	-	0-4	4-8	0-12	16-28
WA	120	2-2	4-0	-	0-4	0-4	18-10
SA	12-0	12-0	4-0	4-0	-	0-12	32-12
Tas	12-0	12-0	4-0	12-0	8-4	-	48-4
Total points at home	48-4	30-6	200	32-4	16-28	0-44	146-86

Table 2 allows us to easily see a team's home and away performance, or compare two teams' performances against other teams. The table shows that:

- ❖ None of the top four teams lost outright at home.
- ❖ When the top four teams played each other only three times out of 12 did the away side gain first innings points.
- ❖ Teams are far more likely to win at home (146 points) than when they are away (86 points).
- ❖ With 52 points being won in Sydney, the NSW ground is far more likely to produce an outright result than is the MCG at which only 20 points were won.

From these findings, we see that a side is given a huge advantage when the final is played at its home ground. Even if the final was decided on first innings points, the home side would have a 75 per cent chance of winning based on 1985/86 results. By insisting that the visiting (second placed) side win

chance of winning based on 1903/00 results. By insisting that the visiting (second placed) side win outright to win, the Shield organisers are virtually giving the Shield to the top side.

Table 3 illustrates the point by showing the total number of points awarded in matches each team played at home and away and the percentage of those points each team gained.

TABLE 3

Team	Points won at home matches					Points won at away matches
	Home Team	Both Teams Combined	Home Team x100 /Combined	Away Team	Both Teams Combined	Away Team x100 /Combined
NSW	48	52	92%	8	28	29%
Qld	30	36	83%	24	36	67%
Vic	20	20	100%	28	44	64%
WA	32	36	89%	10	28	36%
SA	16	44	36%	12	44	27%
Tas	0	44	0%	4	52	8%

Table 3 shows that:

- ◆ The four top teams gained the majority of their home game points - over 80 per cent for each of the top four teams and over 90 per cent for Victoria and NSW.
- ◆ The greatest number of points came from games played in NSW where 52 points
- ◆ were scored from a possible 60 points available.
- ◆ The least number of points came from games played in Victoria, where only 20 points were scored and all by the home side.
- ◆ Games played in NSW produced almost 50 per cent more home points than those played in Queensland and at least 20 per cent more home points than games played in any other State.
- ◆ In matches played away from home those involving Victoria and SA produced the most points and those involving NSW the least points.
- ◆ Both Victoria and Queensland gained more than 60 per cent of the points scored in their away matches whereas NSW gained only 30 per cent. The above analysis shows quite clearly that there is a large home ground advantage in the Sheffield Shield competition.

This advantage is in two parts. The first allows a team to perform better on its home ground than away - such an advantage is inherent in the game and while it appears to be greater for some teams than others, that is not a problem. It is up to each team to learn to successfully exploit the idiosyncrasies of their home ground. The second is more insidious - for successful exploitation of this home ground advantage, some teams are rewarded more than others. This type of home ground advantage is inherent in the scoring system and administrators should work towards its removal.

It is clear that NSW finished on top of the table because they exploited a home ground where outright victories were the norm. At the other grounds, perhaps because of flat pitches or loss of time due to rain, outrights were far less common. These teams were put at a severe disadvantage because of the scoring system used. It should be noted that if groundsmen wish to assist their teams, they should prepare pitches which will produce outrights. That way, their team will be playing for zero or 12 rather than zero or four points. Similarly, captains would be better off agreeing to declare their first innings closed at 0-0 and so make a first innings win an outright win. (This is not as outlandish as it seems. A similar happening occurred in a Victorian Cricket Association match when the teams declared their first innings closed at 2-69 and 3-69, allowing time for one side to gain an outright.)

Overcoming home ground advantage

It is obviously the organisers' responsibility to choose scoring methods which reduce the present home ground advantage. Two methods are suggested.

1. *Sharing points for undecided outrights.* This method treats undecided outrights in the same manner as undecided first innings points. The Queensland/WA match resulted in the four first innings points being split 2-2 as the two first innings were not completed. If outrights were treated the same way, the eight outright points would be split between the two teams in the event of the match being drawn. This would mean that every match resulted in the awarding of twelve points, and in 1986 would have resulted in the following final Shield table.

Queensland	78
NSW	76
Victoria	76
WA	70
SA	44
Tasmania	16

2. *Using point difference.* In deciding the point allocation for games administrators influence the way the game is played. Rewards are given for outcomes that correspond to some ideal behaviour winning on the first innings or outright. For example, in the past, to encourage attractive play, bonus batting points have been given for scoring quickly. Now, while winning matches is behaviour that should be rewarded, it also is true that not losing matches should also be encouraged. A team is not penalised for losing matches outright. In Test cricket, the quality of not losing matches is important - teams sometimes fight for several days just to avoid defeat. In the present Shield competition, such a fight would not be rewarded. A team receives exactly the same number of points if it loses or draws. A simple way to incorporate rewards for not losing (or penalties for losing) is to award points as present but determine the table on points difference: points won less points lost.

Such a table is easily made up by referring back to Table 2. For example, NSW total points gained is $48+8 = 56$, total points lost $4 + 20 = 24$. Doing this for each team gives the table 4.

This gives a final order of Queensland on top with NSW and Victoria equal second. Note that NSW has

dropped in the order because it lost more matches than Victoria and Queensland. Now while negative numbers are difficult to work with, it can be shown that this system is exactly the same as allocating outright points equally between two drawn teams. This system produces the same order as the method outlined in the previous section. In fact, the points under the previous system are always $60 + \text{half the above differences}$.

TABLE 4.

Team	For	Against	Difference
NSW	56	24	32
Queensland	54	18	36
Victoria	48	16	32
WA	42	22	20
SA	28	60	-32
Tasmania	4	92	-88

The previous method of allocating outright points equally between drawn teams not only goes some way to reducing home ground advantage, but also rewards teams for not losing matches.

Alternative method

While it is not suggested as a method for determining a Shield winner, this alternative method does shed some light on the year's results, and is useful in looking at how well a particular State performed.

Consider each pair of matches that two teams play against each other, say SA and NSW. In one match SA beat NSW on the first innings, in the second NSW beat SA on first innings and outright. Clearly, NSW has performed better than SA. We would say that pair of matches shows NSW should finish higher than SA. On the other hand, in the two Queensland Victoria matches, both teams had one first innings victory each - that pair tells us nothing about the relative merits of Queensland and Victoria. Thus each pair of matches either gives us an ordering of the two teams or is inconclusive. The only combination which produces an arguable result is where one side has won both first innings points, but lost one on outright, as was the case with NSW and Victoria. Under last season's scoring system that would count as inconclusive (eight points each), although most observers would probably say that NSW had the better of Victoria. For any other combination, it is beyond dispute which team had the better of the other, independently of whatever decisions are made regarding relative merits of first innings and outright points. Working through the 15 pairs of matches we obtain the following:

NSW - Qld NSW above Qld 8-0

NSW - SA NSW above SA 16-0

NSW - Tas NSW above Tas 12-4

NSW - Vic arguable 8-8 - see above

NSW-WA inconclusive 12-12

Qld - SA Qld above SA 24-0

Qld - Tas Qld above Tas 24-0

Qld - Vic inconclusive 4-4

Qld WA Qld below WA 2-6

SA - Tas SA above Tas 20-4

SA Vic SA below Vic 4-12

SA - WA SA below WA 0-8

Tas Vic Tas below Vic 0-16

Tas - WA Tas below WA 0-8

Vic WA Vic above WA 8-0

We are now looking for an order which preserves as many of these relationships as possible. Clearly, Tasmania is on the bottom, as it is below all other teams. Next is SA as it is above only Tasmania. Continuing in this way, we obtain the following order, which surprisingly is consistent with all the above results.

NSW, Vic, WA, Qld, SA, Tas

Surprisingly, Queensland drops to fourth on the table. Its effort in defeating both Tasmania and SA by outrights twice, which counts so much in last season's system, here only confirms that it is better than both SA and Tasmania. However, Queensland's performance against the other top teams is poor - 48 of its 54 points come from the SA and Tasmania matches. This method tends to judge top teams more on how they perform against each other rather than how they perform against weaker teams. Would we judge the relative merits of West Indies and England on how well they beat the United States, or how they perform against each other?

Conclusion

NSW is to be congratulated on winning the 1985/86 Sheffield Shield. Given a set of conditions for the running of any competition, good teams will play to maximise their score. However, it is clear that there are many methods of evaluating a team's performance. Team managers and supporters should not uncritically accept the final finishing order as some absolute measure. Looking at results in various ways can point coaches and captains to areas requiring improvement - e.g. NSW performances away, Victoria's need to get outrights on its home ground and Queensland's performance against top sides. Of course, such observations can be tempered with a more detailed knowledge of individual matches, such as interruptions by rain, and absence of Test players.

Administrators also can learn from analysis and work towards devising points systems that minimise unfair advantages to some teams and reward preferred outcomes. In the Shield competition, home ground advantage and lack of penalties for losing matches should be areas of concern.

The above analysis has been performed on the 1985/86 results only. Previous years results also could be analysed to see if the above results are normal or a one-off aberration.

While the above analysis has been done on the Sheffield Shield, similar analysis could be performed on District cricket or any other cricket or sporting competition and provide useful insights to players and administrators.

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