## The EBU grading system and Teams events

Our National Grading Scheme (NGS) has recently started to include some kinds of Teams of Four events; those where each board is played at several tables (that is, more than two tables).

This means that those players who play more teams than pairs can now have grades that represent the majority of the bridge that they play. At Club level, Teams events can now be considered as prestigious as Pairs events for National Grading.

## How does it work?

The NGS grading works on partnership results, so rather than grading a pair using a team's overall score we use values for each pair in the team. For each board, the value used is the pair's "cross-IMP score". This is obtained by comparing the pair's score, not only with that at the other table where their teammates are sitting, but with every other table where the board was played. Each comparison with these other tables gives an IMPs score and the pair's cross-IMP score is the average of these. A pair's total score for grading is just the total of their cross-IMP scores over all the boards of the event or session.

For a team on a single board it is usual for the cross-IMPs scored by the NS pair plus the cross-IMPs scored by the EW pair to be close to the IMP score they scored as a team on that board. But there can be differences, as the other tables can have some effect. Nevertheless, the way for a pair to maximise their cross-IMP score is the same as the strategy they use to get a good IMP score for their team (and yes there are rare exceptions to this rule.)

How does NGS compare a cross-IMP score with the match-point percentages used elsewhere in NGS? From lots of historic research, it has been found that scoring 1 cross-IMP per board is the equivalent of scoring $6.48 \%$ above the average percentage of $50 \%$. So each pair's cross-IMP total is divided by the number of boards they have played and multiplied by the factor ximpfactor= 6.48 to give the pair's equivalent session percentage above or below 50\%. The "above par" \%scores that you can see online for a graded Teams event are based on this conversion. That figure of 6.48 sounds very precise, but more on that later. By the way, some Pairs events are scored using cross-IMPs (or a similar scoring method called Butler IMPs), and NGS has been grading these events using the above factor for the last four years.

Of course, in order to be able to grade a pair, NGS needs to know which two players from the team were sitting NS and which EW for every round. For a Multiple Teams of Four session as played at many clubs, the players follow a defined movement, and provided the initial seating is known, the seating at all subsequent rounds can be determined. At other types of Teams events, for example Swiss Teams, pairs may swap orientation or even change partners, and this is certainly so if there are more than four players in a team as happens occasionally, so it would be necessary for the TD to know about any changes in line-up for each round (and for the scoring system to be able to record this). We hope in the future that wireless scoring systems will be able to check for line-up changes and record this.

## Progress to date

Despite the challenges all this extra information gives to scoring systems, TDs and to the NGS software, we were able to go live in July this year. Congratulations to Royston Bridge Club for being the first club to have a Teams event graded: their Mavis Drake Teams event on 3 July. Since then we
have graded the Scarborough Teams events, other clubs Teams events and several of the Teams events at the EBU Brighton Summer Congress. We overcame a number of teething troubles, and successfully graded various Brighton events including both the main and Seniors Swiss Teams. We also managed to grade to grade the Mixed Pivot Teams, where a player plays 9 boards with each of the other three members of the team. Ensuring that the system correctly knew which two players were sitting NS and EW on every board was a major challenge for the EBU staff, and we really don't recommend that clubs try to submit Pivot Teams events for grading!

For such an event, where a player has three partners, NGS produces an "AbovePar" for each of a player's three partnerships in the session and updates the grades accordingly. However, the EBU member's online display currently only shows one of these values, so the "AbovePar" value will be misleading. (We hope to improve this display soon.)

## Why don't we extend all this to matches between just two teams?

If a series of boards are played at just two tables, the result depends equally on the performance of all eight players, and the potential errors in assigning the same above/below par performance to all eight players would mean that such results would not improve the accuracy of an individual's grade. Therefore we don't expect ever to grade such head-to-head matches. However we do plan to extend the pair-based grading to those events involving Teams of Eight (or more), as in these matches boards are played multiple times and cross-IMPs scores for each pair will be meaningful.

## More about that ximpfactor

That factor of $6.48 \%$ for each cross-IMP per board is based on a mixture of theoretical reasoning and empirical evidence. Using the large database of results submitted to the EBU, a statistical analysis of this comparison is being performed. It shows the value is about right, but we may make some slight adjustment in the next few months.

